No.01

Oki Data CONFIDENTIAL

FX-060VP
FACSIMILE TRANSCEIVER
Maintenance Manual

[Rev. 5]

Related drawings

Drawing No.	Name
42353001TL	FX-060VP FACSIMILE TRANSEIVER Disassembly for Maintenance
42353001TR	FX-060VP FACSIMILE TRANSEIVER RSPL

BOM | Use for | Certification Body

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PREFACE

This manual is intended to be used for installing and maintaining FX-060VP facsimile transceiver.

Maintenance of the FX-060VP is assumed to be conducted at the following levels:

- Assembly-level maintenance for mechanical portions
- Unit-level maintenance for electrical at portions

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS
and
ATTENTION: IL Y A DANGER D'EXPLOSION S'IL Y A REMPLACEMENT INCORRECT DE LA BATTERIE. REMPLACER UNIQUEMENT AVEC UNE BATTERIE DU MEME TYPE OU D'UNT TYPE RECOMMANDE PAR LE CONSTRUCTEUR. METTRE AU REBUT LES BATTERIES USA GEES CONFORMEMENT AUX INSTRUCTIONS DU FABRICANT.

Programming procedures of the following uses's functions are not described in this maintenance manual.
Please refer to user's guide.

- One-touch key programming
- Two-digit auto dial programming
- Group setting
- Programming mail box password
- Memory operation

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1. GENERAL INFORMATION

1.1 General Performance

(1) Type of appearance
- Desktop type

(2) Applicable lines
- Public switched telephone network (PSTN)
- Private branch exchange (PBX)
- Integrated service digital network (ISDN)
- Internet FAX (Via Internet)

Note : ISDN is option.
Internet FAX is option (except ODA version).

(3) Compatibility
- ITU-T Group 3 facsimile transceiver
- ITU-T Group 4 facsimile transceiver

(4) Document width
- Max. 216 mm (NA Letter)
- Max. 208 mm (ISO A5 size)

(5) Effective reading width
- NA Letter : 215.1 mm maximum (ODA)
  211.2 mm maximum for Local Copy (ODA)
- ISO A4 : 208.0 mm maximum (OEL, INT'L)
  202.8 mm maximum for Local Copy (OEL, INT'L)

(6) Scanning length
- 128 mm to 356 mm
  Length setting : Unlimited (1500 mm) is also available.

(7) Automatic document feeder (ADF)
- 30 sheets (NA Letter/A4-size: 20-lb/75gm Oki Data recommended paper)
- 15 sheets (NA Letter/A4-size: 13 to 28-lb/49 to 105gm)

Note: NA is North America

(8) Recording paper or sheet
- First cassette : NA Letter/NA Legal/A4-size plain paper cut
  250 sheets capacity (20-lb/75gm*)
- Second cassette (Option) : NA Letter/NA Legal/A4-size plain paper cut
  500 sheets capacity (20-lb/75gm*)
- Manual loading feeder : Transparency for overhead projector, applicable.
  Sheet size: NA Letter/NA Legal/A4-size
  *: Oki Data recommended paper

(9) Printable width
- NA Letter : 211.3 mm (203.2 mm for assured quality)
- NA Legal : 211.3 mm (203.2 mm for assured quality)
- ISO A4 : 206.0 mm (197.3 mm for assured quality)

(10) Printable length
- NA Letter : 273.4 mm (266.7 mm for assured quality)
- NA Legal : 349.6 mm (342.9 mm for assured quality)
- ISO A4 : 291.0 mm (284.3 mm for assured quality)

(11) Copy stacker
- Max. 100 sheets (20-lb/75gm)

****Note 1:*** Oki Data recommended paper
2: Face down stacking

(12) Scanning resolution

a) Horizontal :

• 300 dots/inch or interpolated 600 dpi

Note : In case of STD resolution, the dpi conversion done from 300 dpi to 200 dpi.

b) Vertical :

Transmission mode : 3.85 line/mm (STD), 7.7 line/mm (FINE), 15.4 line/mm (EX.FINE), 300 dot/inch (EX.FINE) or 600 dot/inch (EX.FINE).

COPY mode : 3.85 line/ mm(STD), 7.7 line/ mm(FINE) or 300 dot/inch(EX.FINE)

Note : 300 dpi × 300 dpi or interpolated 600 dpi × 600 dpi(Transmission is available.)

(13) Scanning method

• 2592 bits contact image sensor

(14) Recording resolution

a) Horizontal :

300 dots/inch or quasi 600 dots/inch

b) Vertical :

Variable : Automatically adjusted to the paper length. (300 to 395 dot/inch), STD mode (3.85 to 5.06 line/mm) and FINE mode (7.7 to 10.13 line/mm) and EX-FINE mode (15.4 to 20.24 line/mm)

Fixed : STD mode : 3.85 line/mm
FINE mode : 7.7 line/mm
EX-FINE mode : 15.4 line/mm, 300 dot/inch
PC-Print : 300 dot/inch

(15) Recording method

• 211.3 mm (2496 bit) or 216.7 mm (2560 bit)

(16) Minimum scan line time for reception

• When receiving from OKIFAX or ECM : 0 ms
• When receiving from non- OKIFAX and non ECM : 10 ms at 3.85 line/mm
5 ms at 7.7 line/mm

(17) Print speed

• Max. 8 sheets per minute

(18) Pre-heating time

• Approx. 20 sec. (standby print)

(19) Coding scheme

• Modified Huffman (MH)
• Modified READ (MR)
• Modified Modified READ (MMR)

(20) Modem

• ITU-T Rec. V.29
• ITU-T Rec. V.27 ter
• ITU-T Rec. V.21 channel 2
• ITU-T Rec. V.17
• ITU-T Rec. V.34

Note: A modem operating at data signalling rates of up to 33600 bit/s for use on the general switched telephone network and on leased point-to-print 2-wire telephone-type circuits.

(21) Transmission speed

• 3 sec. at 33.6 Kbps per sheet of ITU-T No. 1 evaluation test chart

Note: This speed denotes the time interval corres ponding to phase C (message transmission phase) as refferred to ITU-T T.30.

(22) Protocol
- ITU-T Rec. T.30
- ITU-T Rec. G4 Class 1 (Option)
- OKI special protocols: High-speed protocol (G3)

(23) Error correction mode (ECM)
- ITU-T ECM

(24) Communication mode
- Half duplex

(25) Memory capacity
- Basic model : 2.5 M byte
- Optional memory : 2.0/4.0/8.0 M byte memory board can be added.

(26) Liquid crystal display (LCD)
- Two rows of 20 characters for operation guidance, check and various kinds of information

(27) Power source
- Nominal input voltage 120 VAC for ODA version
- Nominal input voltage 230 VAC for INT'L version

(28) MFP (Multi- Function Peripheral) PC Interface kit (option)
- By installing the optional board (CT2 board), the MFP function can be realized:
  PC Printer Function
  PC Scanner Function
  PC FaxModem Function

Note: For details, see "FX-060VP Product Specification for MFP"
Hardware is standard and software is option for Bi-Centro interface.

(29) Internet FAX functions :
- Capable of Internet fax (ITU-T T.37) reception and transmission.
- Capable of changing read side to a PDF file and sending by e-mail.

Note: For details, see Appendix J "Internet FAX fuction".

(30) ISDN G4 function (option)
- ISDN G4 Communication
- ISDN G3 Communication
  Report and List

Note: For details, see Appendix H "ISDN G4 option system specification".

1.2 General User's Function

(1) Transmit mode
- Automatic transmit mode
- Manual transmit mode

(2) Receive mode
- Automatic receive mode
- Manual receive mode
- TEL/FAX automatic switchover mode
- TAD mode
- Memory only receive mode
- Forwarding mode
- PC receive mode (This function is the standard for ODA)

(3) Dual access

(4) Voice request

(5) Automatic redial

(6) Last number redial (Manual redial)

(7) Local copy including multiple copies
- 99 copies max

(8) Sender identification (Sender ID)

(9) Personal identification (Personal ID)

(10) Polling transmission
- Feeder polling transmission
- Memory polling transmission
- Bulletin Poll transmission (when Boxnumber is opened.)

(11) Polling reception

(12) Selective polling
- 16 boxes

(13) Acoustic line monitor (only TX mode)
- 5 level selectable

(14) Telephone handset (option)

(15) Automatic alternate selecting call (FAX No. + FAX No. can be registered in one-touch keys).

(16) Delayed transmission (Max. 3 days)
- Delayed broadcast
- Delayed transmission
- 20 specified times

(17) Relay broadcast initiate
- Feeder relay broadcast initiate
- Memory relay broadcast initiate

(18) Subaddress transmission

(19) Confidential message transmission (Hopper 1 station)

(20) Confidential message reception
- 16 mail boxes

(21) PHOTO mode (Half-tone transmission)
- 64 scale gradations

(22) G3 sequential broadcast (Memory)
- Broadcast mode
  240 stations at maximum
- Delayed broadcast mode

(23) No paper/no toner reception (Memory)

(24) Memory-only reception
(Memory reception even if paper does not run out)

(25) Distinguishing Text from picture

(26) Page re-transmission (Only in case of memory TX mode)

(27) Vertical reduction printing (Reduction rate is from 100% to 75%)

(28) Horizontal reduction (RX, Copy: Reduction rate is from 93% to 98%)

(29) Smoothing printing (In case of 8 dot/mm × 3.85, 7.7 or 15.4 line/mm → 300 dot/inch × 784 line/inch)
- Turn off in the PC print mode

(30) Programmed key operation (“F” key + “OT” key)

(31) Auto dialing
- One-touch dialing 40 locations
- Three-digit automatic dialing 150 locations
- Keypad dialing
- Chain dialing
- Mixed dialing
- Group dialing 20 dialing groups (190 locations)

(32) Realtime dialing
(In case of optional handset is installed or Hook key)

(33) Automatic pause signal insertion

(34) Manual feeder local copy

(35) Telephone directory (Alpha search) dialing

(36) TEL/FAX automatic switching

(37) Time and date printing

(38) Closed users group (Direct mail rejection)

(39) Transmission contrast and resolution control

(40) Key touch tone

(41) Printer counter display (For drum, toner, total print)

(42) Total page counter (Scan)

(43) Quick scanning 3 sec. minimum → A4 size 3.85 ℓ/mm

(44) Time and date setting

(45) PC interface (option)

(46) Language selection
- 5 languages (LCD and Reports)

(47) Fax fowarding

(48) 4 digit indication of YEAR

(49) Memory password programming

(50) Fax network programming

(51) Restrict ID programming

(52) ISDN programming

(53) Reports
- Activity report
- Protocol report (Service man setting)
- Message confirmation report (Single address or multiple addresses)
- Broad cast entry report (Broadcast)
- Transmission error report
- Confidential reception report
- Configuration report
- Telephone directory
- Power outage report
- Log report
- G4 Log.report

1.3 General Maintenance Functions

1) Local tests

(1) Self-diagnosis
- CPU ROM/RAM check
- FLASH (/MASK) memory check (Program, Language, Default)
- Modem version
- RAM check
- RAM check (MEMORY board: option)
- PC-IF board (parallel) check
- ISDN board (option) : CPU ROM/RAM check
- Internet FAX board check
- Print test

(2) Sensor calibration (Adjustment of scanning level)

(3) LED test

(4) Tone send test (When NCU board is installed.)

(5) Multi-frequency (MF) send test (When NCU board is installed.)

(6) High-speed modem send test (When NCU board is installed.)

(7) High-speed modem receive test (When NCU board is installed.)

(8) Tone (TEL/FAX) test (When NCU board is installed.)

(9) Loop back 1 (When ISDN option board is installed.)

(10) Loop back 2 (When ISDN option board is installed.)

(11) INFO 00 sending (When ISDN option board is installed.)

(12) INFO 01 sending (When ISDN option board is installed.)

(13) INFO 03 sending (When ISDN option board is installed.)

(14) Pulse (1KHz) send (When ISDN option board is installed.)

(15) Pulse (2KHz) send (When ISDN option board is installed.)

(16) Pulse (N2KHz) send (When ISDN option board is installed.)

2) Technical function

3) System reset
- All data clear
- Location data clear
- Configuration data clear

4) Default type set

5) PC loading

6) G4 loading

1.4 General Appearance

Figure 1.1 shows the general appearance.
Figure 1.2 shows the control panel.

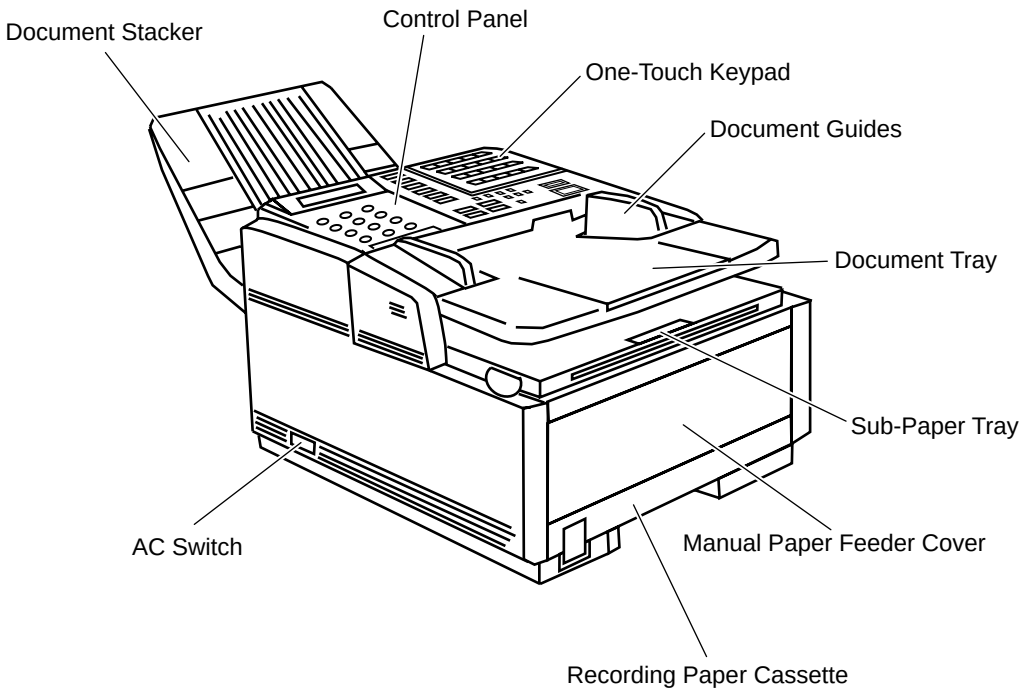


Figure 1.1 General Appearance

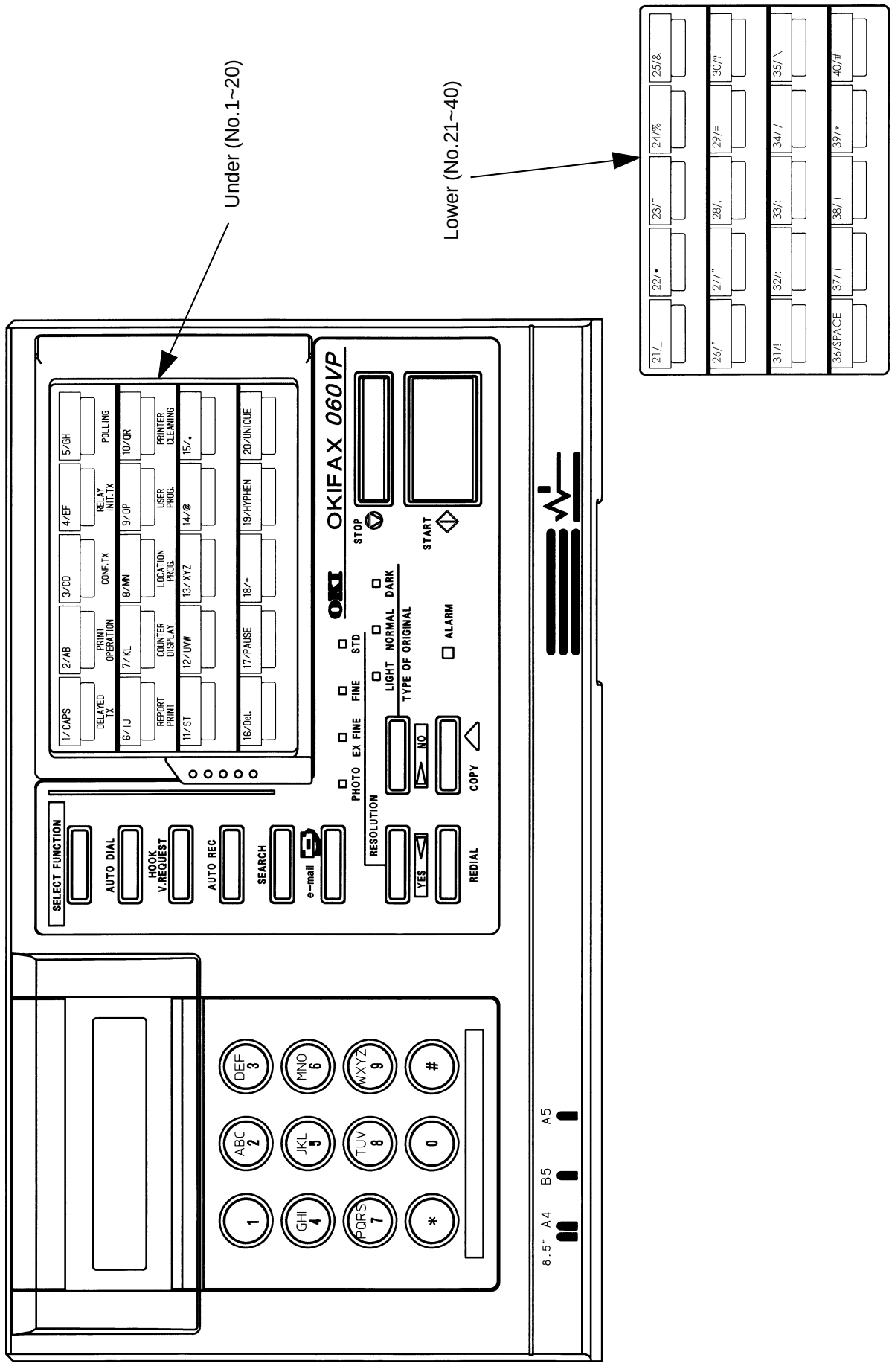


Figure 1.2 Control Panel

1.5 Basic Performance Specifications

Table 1.1 shows basic performance specifications.

Note: TF: Technical function setting
FP: Function program setting
OT: One-touch key pressed
F: SELECT FUNCTION key pressed

Table 1.1 (1/9) Basic Performance Specifications

No.	Item	Specifications
1	Applicable line	1) Public switched telephone network (PSTN) 2) Private branch exchange (PBX) (OT9+2) 3) Integrated services digital network (ISDN) : option
2	Line interface	
	1) Impedance	600Ω balanced ***Note:*** Impedance may differ by the requirement of PTT.
	2) Sending power level	0 dBm to –15 dBm range, –7 dBm to –15 dBm range : FRE (Adjustable in 1 dB steps. TF+21)
	3) Receiving power level	0 dBm to -43 dBm (In case of V.34 TX/RX, –3 to –36 dBm)
3	Type of document to be transmitted	
	1) Width	Max. 216 mm (NA Letter) Min. 148 mm (ISO A5 size) ***Note:*** Effective reading width is NA Letter (215 mm).
	2) Length	Min. 128 mm (5 inch) Max. 356 mm (14 inch) Long document detection: 380 mm, or 1500 mm. * TF + 10 (To enable or disable the long document scanning)
	3) Thickness	Based on common bond paper, a) 0.08 to 0.13 mm for multiple page feeding b) 0.06 to 0.15 mm for single page feeding
	4) Shape	Rectangular
	5) Opacity	Documents allowing less than 40% of the scanner source light to pass through them.

Table 1.1 (2/9) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>4</td><td>Effective reading width</td><td>
<table>
<tr><th>Document width</th><th>Communication Mode/Paper width</th><th>Effective reading width</th><th>Copy size</th></tr>
<tr><td>ISO A4 (210 mm) [INT'L/FTZ]</td><td>G3/A4</td><td>208 mm for TX
202.8 mm for local copy</td><td>A4</td></tr>
<tr><td>NA letter (216 mm) [US/CANADA]</td><td>G3/A4</td><td>215.1 mm for TX
211.2 mm for local copy</td><td>Letter</td></tr>
<tr><td>NA legal (216 mm) [US/CANADA]</td><td>G3/A4</td><td>215.1 mm for TX
211.2 mm for local copy</td><td>Legal</td></tr>
</table>
Note: Local copy: Pritable reading width in local copy mode
</td></tr>
<tr><td>5</td><td>Automatic document feeder (ADF)</td><td>Max. 30 documents: NA Letter or A4 (20-lb/75 gm)
Max. 15 documents: NA Letter or A4 (16-28lb/60-105 gm bond paper)
Documents shall be placed facedown on Document tray.
The first sheet will be fed first in the feeder and will exit facedown in the document stacker.</td></tr>
<tr><td>6</td><td>Document skew</td><td>Max. 1.0 mm skew over any advance of 100 mm.
The occurrence of skew exceeding 1 mm per 100 mm shall be 0.5 % or less.</td></tr>
<tr><td>7</td><td>Document jam detection</td><td>1) Transmission will stop and line disconnection will occur when the end of a document is not detected within 356 mm after scanning begins (except for the long document scanning. TF +10)

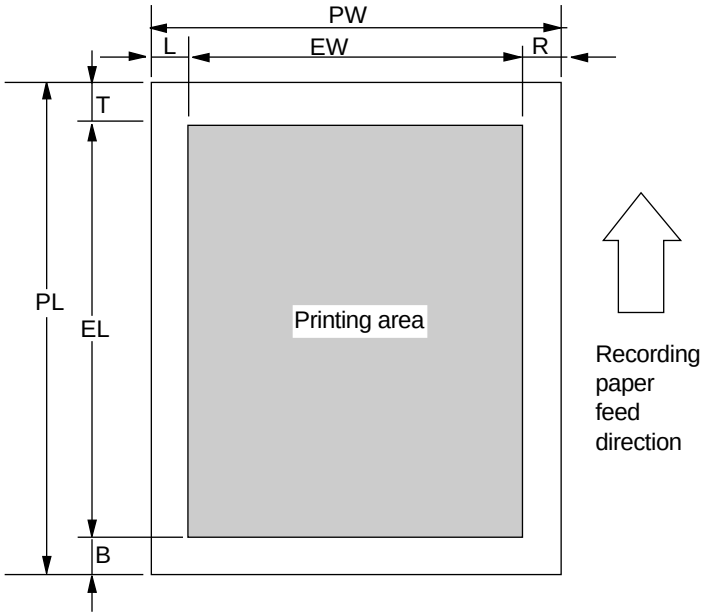
2) A jam will also be declared if the document does not reach the scanning position within 5.0 seconds after the start of a document feed.

Note: When a jam is detected during message transmission from the feeder, the machine will stop scanning and disconnect the line, but its receiving capability will remain valid.</td></tr>
<tr><td>8</td><td>Document jam removal</td><td>Manual release</td></tr>
</table>

Table 1.1 (3/9) Basic Performance Specifications

No.	Item	Specifications
9	Recording paper or sheet	For the first or second recording paper cassette: 1) Type: Plain paper cut (Bond paper : Xerox 4200 type or equivalent) 2) Size: ISO A4 (210 mm × 297 mm) NA Letter (215.9 mm × 279.4 mm)/(8.5 inch × 11 inch) NA Legal14 (215.9 mm × 355.6 mm)/(8.5 inch × 14 inch) NA Legal13 (215.9 mm × 330.2 mm)/(8.5 inch × 13 inch) 3) Weight: 16 lbs to 24 lbs/60-90 gm base weight Base weight is defined as the weight of 500 sheets of 431.8 mm (17 inch) by 558.8 mm (22 inch) or 1 sheet size 1000 mm by 1000 mm. 4) Thickness: 0.08 mm to 0.13 mm 5) Condition: New paper For the manual loading feeder on the first cassette: 1) Type: Plain paper, transparency for overhead projector, colored paper, printed paper, envilope 2) Size: A4/NA Letter/NA Legal/Exective/A5/A6/etc. 3) Weight, thickness and condition: Same as above ***Note:*** One single sheet only should be loaded on the manual loading feeder for any one occasion. For best results use Oki Data recommended papers 1) Xerox 4200 (20 - lb/75gm weight paper) 2) L-type paper for photo-printers
10	Recording paper cassette	
	1) First cassette	Up to 250 sheets/cassette (Oki Data recommended paper)
	2) Second cassette (Option)	Up to 500 sheets/cassette (Oki Data recommended paper)

Table 1.1 (4/9) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>11</td><td>Effective recording area</td><td>


1) Printable area
<table>
<tr><th></th><th colspan="2">NA LETTER SIZE</th><th colspan="2">ISO A4 SIZE</th><th colspan="2">14 inch LEGAL SIZE</th><th colspan="2">13 inch LEGAL SIZE</th></tr>
<tr><th></th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th></tr>
<tr><td>PL</td><td>11</td><td>279.4</td><td>11.7</td><td>297</td><td>14</td><td>355.6</td><td>13</td><td>330.2</td></tr>
<tr><td>PW</td><td>8.5</td><td>216</td><td>8.27</td><td>210</td><td>8.5</td><td>216</td><td>8.5</td><td>216</td></tr>
<tr><td>EL</td><td>10.76</td><td>273.4</td><td>11.46</td><td>291</td><td>13.76</td><td>349.6</td><td>12.76</td><td>324.2</td></tr>
<tr><td>EW</td><td>8.32</td><td>211.3</td><td>8.11</td><td>206</td><td>8.32</td><td>211.3</td><td>8.32</td><td>211.3</td></tr>
<tr><td>T</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td></tr>
<tr><td>B</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td><td>0.12</td><td>3</td></tr>
<tr><td>L</td><td>0.09</td><td>2.3</td><td>0.08</td><td>2</td><td>0.09</td><td>2.3</td><td>0.09</td><td>2.3</td></tr>
<tr><td>R</td><td>0.09</td><td>2.3</td><td>0.08</td><td>2</td><td>0.09</td><td>2.3</td><td>0.09</td><td>2.3</td></tr>
</table>
2) Guaranteed printing area
<table>
<tr><th></th><th colspan="2">NA LETTER SIZE</th><th colspan="2">ISO A4 SIZE</th><th colspan="2">14 inch LEGAL SIZE</th><th colspan="2">13 inch LEGAL SIZE</th></tr>
<tr><th></th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th><th>inch</th><th>mm</th></tr>
<tr><td>PL</td><td>11</td><td>279.4</td><td>11.7</td><td>297</td><td>14</td><td>355.6</td><td>13</td><td>330.2</td></tr>
<tr><td>PW</td><td>8.5</td><td>216</td><td>8.27</td><td>210</td><td>8.5</td><td>216</td><td>8.5</td><td>216</td></tr>
<tr><td>EL</td><td>10.5</td><td>266.7</td><td>11.2</td><td>284.3</td><td>13.5</td><td>342.9</td><td>12.5</td><td>317.5</td></tr>
<tr><td>EW</td><td>8.0</td><td>203.2</td><td>7.77</td><td>197.3</td><td>8.0</td><td>203.2</td><td>8</td><td>203.2</td></tr>
<tr><td>T</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
<tr><td>B</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
<tr><td>L</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
<tr><td>R</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td><td>0.25</td><td>6.35</td></tr>
</table>
Note: The printable area means the area allowing actual printing at the time of receiving. The guaranteed printing area means the area where the printing quality is guaranteed.
This table does not include vertical and horizontal addressing error +/- 3 mm) of recording paper.
</td></tr>
<tr><td>12</td><td>Copy stacking</td><td>The fax can discharge printed copies and stack them face-down.
Maximum sheets on the copy stacker: 100*

***Note** :* Oki Data recommended paper, New standard 20-lb. (Xerox 4200)</td></tr>
</table>

Table 1.1 (5/9) Basic Performance Specifications

No.	Item	Specifications
13	Scanning resolution	Horizontal: • 300 dot/inch or interpolated 600 dpi ***Note :*** In the local copy at standard (STD) resolution the dpi conversion is done from 300 dot/inch to 200 dot/inch. Vertical: Transmission mode: • 3.85 line/mm (STD), 7.7 line/mm (FINE), 15.4 line/mm (EX.FINE), 300 dot/inch (EX.FINE) or 600 dot/inch (EX.FINE) ***Note:*** 300 dpi × 300 dpi or interpolated 600 dpi × 600 dpi: Transmission is available. COPY mode: • 3.85 line/mm (STD), 7.7 line/mm (FINE), 15.4 line/mm (EX.FINE)
14	Image scanning method	NA Letteer size (2592-bit) contact image sensor
15	Contrast control	1) Automatic background sensing A continuous document background of 0.3 OD (optical density) or less will be transmitted as white. 2) The LIGHT and DARK contrasts (low contrast) will be automatically enhanced to improve image quality. Slice level shifting has 3 levels of switch selection on operation panel.
16	Recording resolution	Horizontal: • 300 dot/inch or quasi 600 dot/inch Vertical: Fixed: 3.85 line/mm (STD), 7.7 line/mm (FINE), 15.4 line/mm (EX-FINE) 300 dot/inch (EX-FINE) Variable: Automatically adjusted to the paper length. • 784 to 1076 dot/inch • 300 to 412 dot/inch • 3.85 to 5.06 line/mm (STD) • 7.7 to 10.13 line/mm (FINE) • 15.4 to 20.24 line/mm (EX. FINE)
17	Recording system	Electro-photographic printing 1) 211.3mm (2496 bit) or 216.7mm (2560 bit) LED print head
18	Skew of recording paper	Maximum allowable skew is + or - 1 mm over an advance of 100 mm.
19	Copy darkness	1) Black image: Greater than 1.2 OD* 2) White background (unprinted area): Not greater than 0.2 OD ***Note:*** OD(optional dencity)
20	Copy uniformity	Printed copies will exhibit a uniform density of the printed and background area: 1) From edge to edge: 25% 2) From copy to the next copy: 30%

Table 1.1 (6/9) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>21</td><td>Recording paper running out</td><td>The fax can detect the no-paper condition by a photosensor. When the paper has run out in the local copy operation, the scanning will stop with “PAPER OUT/JAM” on the LCD and an ALARM LED turns on without an alarm tone.
When the paper has run out while a message is being received and the no-paper reception is activated, the LCD display will show “MSG. IN MEMORY”, and the ALARM LED turns on.</td></tr>
<tr><td>22</td><td>Minimum scan line time for receiving</td><td>0 ms, when receiving in ECM mode or from an Oki Data facsimile.
5 ms at 15.4 line/mm or 7.7 line/mm and 10 ms at 3.85 line/mm when receiving from a non-Oki Data facsimile or non-ECM mode.</td></tr>
<tr><td>23</td><td>Coding scheme</td><td>1) One-dimensional coding scheme:
Modified Huffman (MH)

2) Two-dimensional coding scheme:
Modified READ (MR)
Modified modified READ (MMR)</td></tr>
<tr><td>24</td><td>MODEM
1) High-speed MODEM</td><td>a) ITU-T Rec. V.29 (9600/7200 bps)
b) ITU-T Rec. V.27 ter (4800/2400 bps)
c) ITU-T Rec. V.17 (14400/12000/9600/7200 bps)
d) ITU-T Rec. V.33 (14400/12000 bps)
e) ITU-T Rec. V.34 (33600/28800 bps)</td></tr>
<tr><td></td><td>2) Low-speed MODEM</td><td>ITU-T Rec. V.21 channel 2 (300 bps)</td></tr>
<tr><td>25</td><td>Fallback</td><td>Automatic fallback will occur according to the following sequence by FTT, RTN or PPR.</td></tr>
</table>

Fallback rank	Transmission speed	Activated by FTT (Times)	Activated by RTN (Times)	Activated by PPR (Times)	Protocol
1st	14400 bps	1	1	4 (Note 1)	ITU-T V.17 (V.33)
2nd	12000 bps	1	1	4 (Note 1)	ITU-T V.17 (V.33)
3rd	9600 bps	1	1	4 (Note 1)	ITU-T V.17 (V.29)
4th	7200 bps	1	1	4 (Note 1)	ITU-T V.17 (V.29)
5th	4800 bps	2	1	4 (Note 1)	ITU-T V.27 ter.
6th	2400 bps	2	1	4 (Note 1)	ITU-T V.27 ter.

When the last trial fails, the transmitting station sends out a DCN signal to the remote station for disconnection.

- Modem automatically performs the fall-back depending upon the linecondition.

Note 1: Continuous PPRs for the same partial page within each fallback rank.

Note 2: V.34 modem performs the fall-back depending upon the line condition automatically.

Table 1.1 (7/9) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>26</td><td>Protocol</td><td>1) ITU-T Rec. T.30
2) Oki Data special protocol
High-speed protocol
The T.30 protocol signal from the transmitting station is sent at message transmission speed instead of 300 bps.
Note: In high-speed protocol, V.34 is not applied.
3) ITU-T G4 Class 1 (option)</td></tr>
<tr><td>27</td><td>Image Transmission time</td><td>3.0 seconds at 33.6 Kbps per sheet of ITU-T No.1 evalution test chart.
Note: This is phase C time at 3.85 line/mm and 33600 bps for 3 sec. in MMR code transmission.
Sender ID is not added to the sending data.</td></tr>
<tr><td>28</td><td>Error correction</td><td>ITU-T Error correction mode (ECM) in T4 (G3), T30 (procedurs) are provided.</td></tr>
<tr><td>29</td><td>Communication mode</td><td>Half-duplex</td></tr>
<tr><td>30</td><td>Ringing signal detection sensitivity</td><td></td></tr>
<tr><td></td><td>1) Voltage range</td><td>25 to 150 V r.m.s.
Inoperative below 10 V
Note: This range may differ by the requirement of PTT.</td></tr>
<tr><td></td><td>2) Frequency range</td><td>16 to 68 Hz
Note: This range may differ by the requirement of PTT.</td></tr>
<tr><td></td><td>3) Ring response time</td><td>One-ringing signal or 5 sec, 10 sec, 15 sec, and 20 sec selectable. (F + OT9 + ← +11)</td></tr>
<tr><td>31</td><td>Memory capacity (Image memory)</td><td>
<table>
<tr><th></th><th>Basic Model</th><th>Optional memory</th></tr>
<tr><td>FX-060VP</td><td>2.5 M-byte</td><td>2/4/8 M-byte</td></tr>
</table>
<table>
<tr><th></th><th>Memory condition</th><th>FX-060VP [pages]</th></tr>
<tr><td rowspan="4">With option board</td><td>Standard (without option)</td><td>200</td></tr>
<tr><td>2M-byte</td><td>360</td></tr>
<tr><td>4M-byte</td><td>520</td></tr>
<tr><td>8M-byte</td><td>840</td></tr>
</table>
Note1: ITU-T No.1 sample document is used to count the number of sheets.
2: Memory back-up time is 20 hours (tipical and Battery full charge condition) after the power off condition.</td></tr>
<tr><td>32</td><td>Overheat protection</td><td>The heater of the fuser unit is controlled within the predetermined temperature range by the thermistor. If the temperature of the heater exceeds the range, the LCD displays “PRINTER ALARM 4”.

Furthermore, the built-in thermostat in the fuser unit prevents the heater from being overheated even in the event of the failures in the above temperature control circuit.</td></tr>
</table>

Table 1.1 (8/9) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>33</td><td>PC interface applications (Option)</td><td>The following four modes are supported:
1) PC local printer function
2) PC scanner function
3) PC FaxModem function

Note: This function will be supplied as the FX-060VP option in case Oki Data can get the approval in respective countries without modifying the optional unit.

For, details, see FX-060VP product specification for MFP.

Hardware is standard and software is option for Bi-Centro interface.</td></tr>
<tr><td>34</td><td>Internet FAX function</td><td>1) Capable of Internet fax (ITU-T T.37) reception and transmission.
2) Capable of changing read side to a PDF file and sending by e-mail.

For details, see Appendix J "Internet FAX Function".</td></tr>
<tr><td>35</td><td>ISDN G4 (Option)</td><td>The following four modes are supplied.
1) ISDN G4 communication
2) ISDN G3 communication
3) ISDN report and list
Note: For details, see Appendix H “ISDN G4 option system specifications”</td></tr>
<tr><td>36</td><td>Power supply unit and power consumption of the machine</td><td>Power consumption of the machine
(Typical power)
<table><tr><th></th><th>INT’L version (230V)</th><th>US/CANADA version (120V)</th></tr><tr><td>Transmit</td><td>22W</td><td>22W</td></tr><tr><td>Receive</td><td>355W</td><td>355W</td></tr><tr><td>Local copy</td><td>360W</td><td>360W</td></tr><tr><td>Standby
(Power Save OFF)</td><td>9W</td><td>9W</td></tr><tr><td>Standby
(Power Save ON)</td><td>0.5W</td><td></td></tr></table>** US/CANADA version has no power save mode.

Note: Chart; ITU-T No. 1</td></tr>
</table>

Table 1.1 (9/9) Basic Performance Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>37</td><td>Ambient condition</td><td>Temperature :
The machine will operate as specified in the Temperature range of 10 Celsius to 32 Celsius. Operation outside this range will be subject to the limitations shown in the following table.
Humidity :
The machine will operate as specified at relative humidities in the range of 20 percent to 80 percent (non-condensing). Operation outside this range will be subject to the limitations shown the following table.
<table>
<tr><th></th><th>In operation</th><th>Power off mode</th><th>During Storage</th><th>Unit</th></tr>
<tr><td>Temperature</td><td>50 - 90
(10 - 32)</td><td>32 - 110
(0 - 43)</td><td>14 - 110
(—10 - 43)</td><td>_F
(_C)</td></tr>
<tr><td>Humidity</td><td>20 - 80</td><td>10 - 90</td><td>10 - 90</td><td>%RH</td></tr>
<tr><td>Maximum wet bulb temperature</td><td>77
(25)</td><td>80.4
(26.8)</td><td>-</td><td>_F
_C</td></tr>
<tr><td>Minimum difference between wet and dry bulb temperature</td><td>35.6
(2)</td><td>35.6
(2)</td><td>-</td><td>_F
_C</td></tr>
</table>
1. Storange conditions specified above apply to the machine in packed condition.
2. Temperature and humidity must be in the range where no condensation occurs.</td></tr>
<tr><td>38</td><td>Dimension
(Main body)</td><td>1) Width: Approx. 330 mm
2) Depth: Approx. 420 mm
3) Height: Approx. 245 mm</td></tr>
<tr><td>39</td><td>Weight
(Main body)</td><td>Approx. 13 kg
Excluding optional units, recording paper and packing materials.</td></tr>
<tr><td>40</td><td>Attachment
(to the main body)</td><td>1) AC power cord × 1
2) I/D unit × 1 (Already installed)
3) Toner cartridge × 1
4) Document stacker × 1
5) Line cord × 1
6) One touch sheet × 1 (Already installed)
7) User’s guide × 1</td></tr>
</table>

1.6 Reports and Lists

Table 1.2 shows Reports and Lists Specifications.

Note: F +OT: Press FUNCTION and One-touch key
FP: Function program setting
TF: Technical function setting

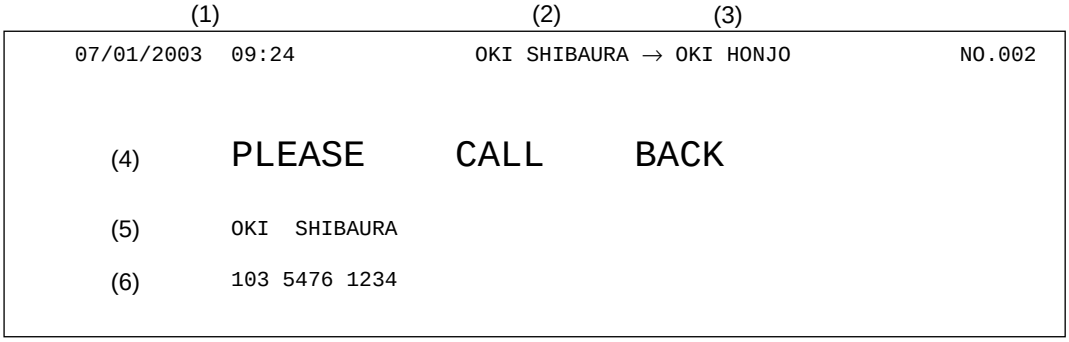
Table 1.2 (1/2) Reports and Lists Specifications

No.	Item	Specifications
1	Call-back message	The transmitter sends a call-back message to the receiver only when the receiver does not respond to voice request of the transmitter.
2	Sender ID	The fax can transmit a programmed alphanumeric message, such as company's name, consisting of up to 32 characters. * (Outside only)
3	Transmitting subscriber identification(TSI) printing	Received TSI can be printed at the top of the received page. * TF + 05 (To enable or disable this function)
4	Cancel report (Power outage report)	The fax can automatically print out a power-outage report when the power off condition occurs.
5	Activity report	The fax can print out an activity report manually, and provides a record of your fax machine's last 50 communications. * REPORT PRINTOUT+1(Manual printout)
6	Message confirmation report	The fax can print out a message confirmation report manually or automatically in the following cases. (1) Manual print By pressing the COPY key after a communication (2) Automatic printout When the FP+01 (to enable or disable automatic printing after a communication) is set to Enable.
7	Broadcast entry report	The fax can print out a broadcast entry report if specified during operating sequence of a broadcast.
8	Broadcast confirmation report	The fax can print out a broadcast confirmation report manually or automatically. * COPY key (Manual printout): Pressed after a broadcast. * REPORT PRINTOUT + 2 (Manual printout) * FP +02 (To enable or disable automatic printing)

Table 1.2 (2/2) Reports and Lists Specifications

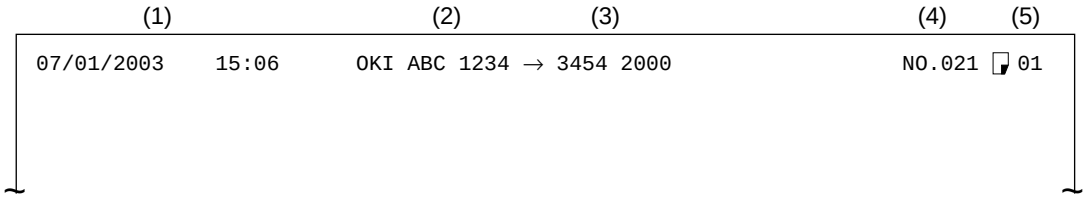
No.	Item	Specifications
9	Confidential reception report	The fax can print out this report automatically on completion of a confidential reception.
10	Active memory files	This report will be manually or automatically printed out for information of transmission/reception data stored in the memory. When there is no stored image data in the memory at all, the Active memory files is not printed out. (REPORT PRINTING + 3)
11	Telephone directory	This directory is printed manually. (REPORT PRINTING +4)
12	Configuration report	This report is printed manually. (REPORT PRINTING +5)
13	Protocol dump (G3)	This report will be manually printed out for maintenance purpose. If the previous communication is G3, G3 communication protocol dump is printed out. (REPORT PRINTING + 6)
14	Self-diagnosis report	This report will be manually printed out for maintenance purpose. (LOCAL TEST + 1)
15	Log report	This report will be manually printed out for fault analysis (Operation is possible only at the time of ON serviceman setting.)
16	Protocol dump (G4)	This report will be manually printed out for maintenance purpose. If it is G4, G4 communication protocol dump is printed out. (REPORT PRINTING +6)
17	G4 Log report	This report will be manually printed out for fault analysis when G4 board is installed. (Operation is possible only at the time of ON serviceman setting.)

Call-back Message Format: (Example)



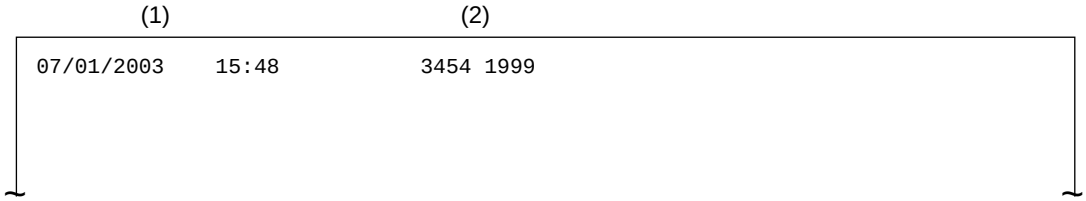
(1) Date and time
(2) Sender ID
(3) CSI/Personal ID
(4) Letters "PLEASE CALL BACK"
(5) Sender ID
(6) Sender's call back telephone number

Sender ID Format: (Example)



(1) Date and time
(2) Sender ID
(3) Receiver's CSI/Personal ID
(4) Session number
(5) Page number

TSI Printing and Local Date and Time Printing Format: (Example)



(1) Local date and time printing
(2) TSI printing

Note: TSI printing (TF+05)
Local date and time printing (TF+04)

POWER OUTAGE REPORT

07/01/2003 17:05
ID=OKI

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
06/30	10:10		0485-88-3385	Tx	01	LOST	
06/30	10:30		ODS TAKASAKI	Tx	03	LOST	
06/30	12:05	01'20"	OKI FAX	CONF=01	03	LOST	0000
06/30	13:00	00'20"	03-5476-4300	RX	01	LOST	0000
06/30	10:50	01'20"	0495-22-5400	RX	03	LOST	0000
06/30	15:00			B.C.	01	LOST	

Note: Memory receptin only is printed on the mode in the report as called.

Figure 1.3 POWER OUTAGE REPORT

Activity Report Format (Example)

(1) ACTIVITY REPORT

(2) 07/01/2003 17:05
(3) ID=OKI

(4) TOTAL TIME TX=08:22' RX=17:30'

DATE (5)	TIME (6)	S,R-TIME (7)	DISTANT STATION ID (8)	MODE (9)	PAGES (10)	RESULT (11)	(12)	
06/29	10:00	01'20"	OKI FAX	TX	02	OK	0000	
06/29	10:10	01'00"	0485 88 3385	TX	00	STOP	9080	
06/29	12:05	01'20"	OKI FAX	TX	03	OK	0000	
06/29	13:00	00'20"	03 5476 4300	TX	01	OK	0000	
06/29	15:40	03'25"	ODS TAKASAKI	CONF=02	03	OK	0000	*1
06/29	19:00	00'00"	OKI FAX	TX	01	OK	0000	*2
06/30	10:10	02'00"	OKI SHIBAURA	RX	05	NO	908E	
06/30	10:22	00'12"	0495 22 5400	TX	00	STOP	9080	
06/30	10:50	01'20"	0495 22 5400	RX	03	NO	9090	
06/30	12:05	00'20"	OKI FAX	TX	01	STOP	9080	
06/30	15:00	01'30"		RX	03	OK	0000	
06/30	15:30	00'20"		TX	01	OK	0000	
06/30	19:04	00'20"	03 5476 4300	TX	00	STOP	9080	
07/01	09:00	01'11"		TX	02	OK	0000	
07/01	10:20	00'20"	03 5476 4300	TX	02	STOP	9080	
07/01	10:35	02'23"		CONF=03	02	OK	0000	*1
07/01	10:50	00'20"	ODS TAKASAKI	RX	01	OK	0000	
07/01	11:03	00'00"	OKI FAX	TX	00	STOP	9080	
07/01	13:00	00'24"	03 5476 4300	RX	01	NO	9082	
07/01	16:00	01'20"	027 324 2117	POLL=01	01	OK	0000	*3
07/01	16:10	00'40"	ODS	POLL TX	01	OK	0000	*4

*1 : Confidential reception
*2 : Manual TX
*3 : Bulletin TX wait state
*4 : Memory/Feeder polling TX wait state

(1) Title of the report
(2) Date and time when the report was printed
(3) Sender ID
(4) Total CALLING and CALLED time
(5) Date of transmission or reception
(6) Time when the communication started
(7) Time span of the fax communication.
(8) Identification of the remote station
Personal ID/Location ID/TSI/CSI/Dial number or space
(9) Communication mode:
TX (Transmission)
RX (Reception NG or MEMORY RX)
B. C. (Broadcast)
CONF=XX (Confidential reception)
FWD-R (Fax Fowarding RX)
FWD-T (Fax Fowarding TX)
POLL TX (polling TX)
POLL RX (polling RX)
POLL=XX (Bulletin polling)
(10) Number of transmitted pages or received pages
(11) Result code
OK (Note1)/NO/STOP (Note 2)/BUSY/PAPER (Out of recording paper)/S_JAM (Document jam)/R_JAM (Recording paper jam)/COVER/COMP (Completion of a broadcast)/PUNIT (Printer Alarm)/CANCL (Confidential reception T.O.)

Note1: The following cases are included:
- Unmatched handshaking to the received NSF.
- Unmatched password to the received NSC in the polling transmission mode.

2: The following cases are included:
- The STOP key is pressed.
- The memory cancellation operation removes the message from the active memory files.

(12) Service code

Message Confirmation Report Format (1/2): (Example)

(1) MESSAGE CONFIRMATION

(2) 07/01/2003 08:05
(3) ID=OKI

(4) DATE	(5) S.R-TIME	(6) DISTANT STATION ID	(7) MODE	(8) PAGES	(9) RESULT	(10)
07/01	00’20"	OKI FAX	TX	02	OK	0000

Message Confirmation Report Format (2/2): (Example)

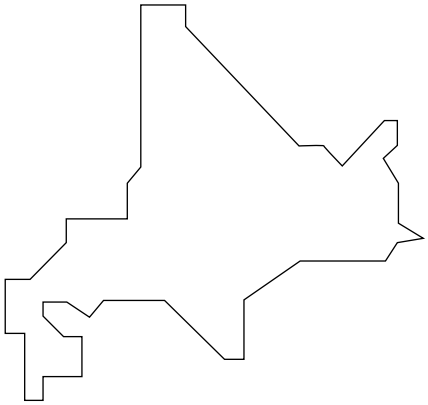
(1) MESSAGE CONFIRMATION

(2) 07/01/2003 17:05
(3) ID=OKI

(4) DATE	(5) S.R-TIME	(6) DISTANT STATION ID	(7) MODE	(8) PAGES	(9) RESULT	(10)
07/01	00'20"	OKI FAX	B.C.	01	COMP	60A0
07/01/96	17:00	OKI → OKIFAX	No.022	001		

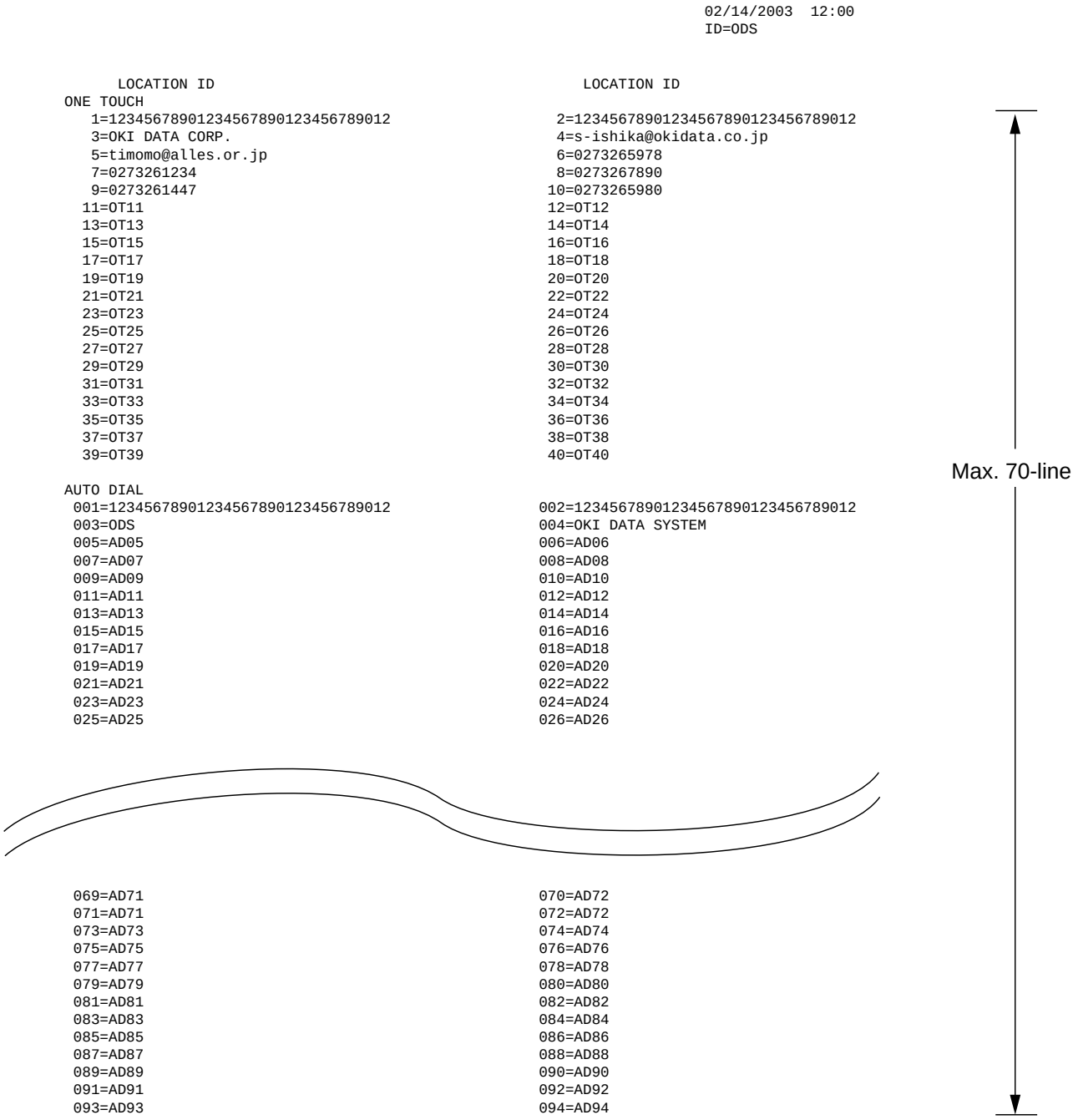
150 km

(11)



(1) Title of the report
(2) Date and time when the report was printed
(3) Sender ID
(4) Date of transmission or reception
(5) Length of time for which the fax was connected to the line
(6) Identification of the remote station
Personal ID/Location ID/TSI/CSI/Dial number
(7) Communication mode
Reference to ACTIVITY REPORT
(8) Number of transmitted pages or received pages
(9) Result of the communication
Reference to ACTIVITY REPORT
(10) Service code
(11) Message

BROADCAST ENTRY REPORT P1



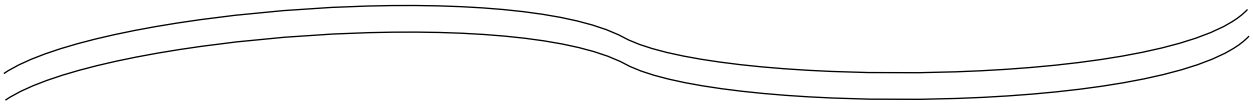
Note: When the number of printed line exceeds Max.70-line, 2nd page is printed out.

Figure 1.4 (1/3) Broadcast Entry Report

BROADCAST ENTRY REPORT P2

02/14/2003 12:00
ID=ODS

LOCATION ID	LOCATION ID
AUTO DIAL	
095=12345678901234567890123456789012	096=12345678901234567890123456789012
097=ODS	098=OKI DATA SYSTEM
099=AD99	100=AD100
101=AD101	102=AD102
103=AD103	104=AD104
105=AD105	106=AD106
107=AD107	108=AD108
109=AD109	110=AD110
111=AD111	112=AD112
113=AD113	114=AD114
115=AD115	116=AD116
117=AD117	118=AD118
119=AD119	120=AD120



141=AD141	142=AD142
143=AD143	144=AD144
145=AD145	146=AD146
147=AD147	148=AD148
149=AD149	150=AD150

Figure 1.4 (2/3) Broadcast Entry Report

BROADCAST ENTRY REPORT P3

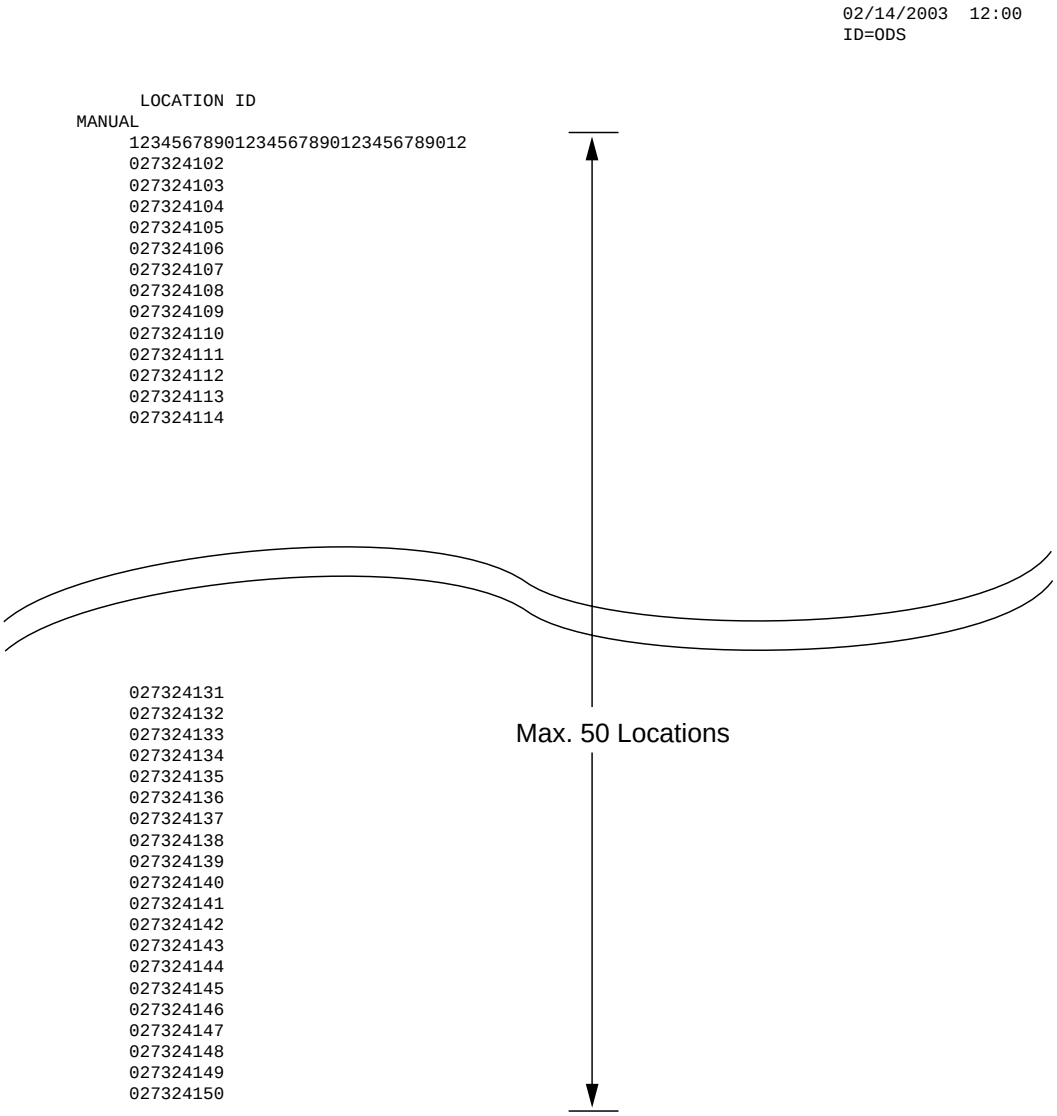


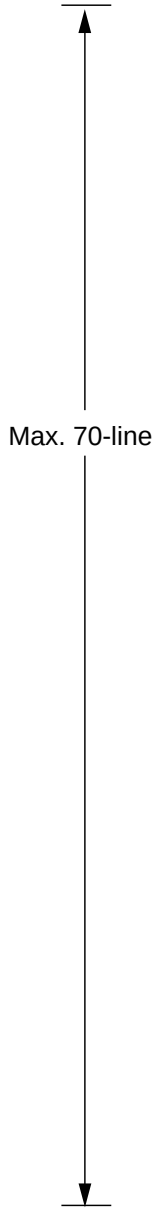
Figure 1.4 (3/3) Broadcast Entry Report

BROADCAST CONFIRMATION REPORT

02/14/2003 12:00
ID=ODS

PAGES = 01
START IME = 02/04 11:00
TOTAL TIME = 00:30’34"

LOCATION	PAGES	RESULT	LOCATION ID	PAGES	RESULT
ONE TOUCH					
1=12345678901234567890123 4	01	OK	2=123456789012345678901 2	01	OK
3=OKI DATA CORP.	01	OK	4=s-ishika@okidata.co.jp	01	OK
AUTO DIAL					
001=1234567890123456789012 3	01	OK	002=1234567890123456	01	OK
003=ODS	01	OK	004=OKI DATA SYSTEM	01	OK
005=AD05	01	OK	006=AD06	01	OK
MANUAL					
1234567890123456789012 34	01	OK			
12345678901234567890	01	OK			



Note: When the number of printed line exceeds Max.70-line, 2nd page is printed out.

Figure 1.5 Broadcast Confirmation Report

CONFIDENTIAL RX REPORT

07/01/2003 17:05
ID=OKI

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT	
07/01	17:00	00'00"	OKI FAX	CONF=01	02	OK	0000

Figure 1.6 Confidential RX Report

1.7 Telephone Directory

1.7.1 Print conditions

		FX-060VP
Number of OTs		40
Number of ADs		150
Number of groups		20
Maximum number of digits of OT/AD Tel No.		40
Maximum number of digits of OT OR Tel No.		40
Maximum number of digits of Email		64 (Alphabetic small letters can be printed.)
Email registered OT		All OTs (40)
Communication parameter		All OT/ADs excluding Email/Web registered OT
	G3-ECHO	ON/OFF
	G3-RATE	4.8K/9.6K/14.4K/28.8K/33.6K
	MODE *1	G3/G4

*1 : Only ISDN opt. Installed.

	FX-060VP
1st page	OT1 ~ 30
2nd page	OT31 ~ 40 + AD 01 ~ 45
3rd page	AD 46 ~ 110
4th page	AD 111 ~ 150
5th page	Group 1 ~ 5
6th page	Group 6 ~ 10
7th page	Group 11 ~ 15
8th page	Group 16 ~ 20

Report is output for registration pages corresponding to the above list.

TELEPHONE DIRECTORY P1

02/14/2003 12:00
ID=ODS

ONE TOUCH	LOCATION ID	TEL NO.	G3-ECHO/G3-RATE/MODE
1	ABCDEFGHIJKLMNO	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
	OR	12345678901234567890123456789012345678901234567890	
2	OT2	12345678901234567890123456789012345678901234567890	OFF / 9.6K / G3
	OR		
3	OT3	12345678901234567890	ON / 33.6K / G4
	OR		
4	OT4	12345678901234567890	ON / 33.6K / G4
	OR		
5	OT5	12345678901234567890	ON / 33.6K / G4
	OR		
6	12345678901234567890123456789012345678901234567890@okidata.cp.jp	[SEND FILE FORMAT = TIFF / SENDER ID(EMAIL) = ON]	
7	046vp@faxmfp.co.jp	[SEND FILE FORMAT = TIFF / SENDER ID(EMAIL) = ON]	
8	OT8	12345678901234567890	ON / 33.6K / G4
	OR		
9	okitakasaki@faxmfp.co.jp	[SEND FILE FORMAT = TIFF / SENDER ID(EMAIL) = ON]	
10	OT10	12345678901234567890	ON / 33.6K / G4
	OR		
11			ON / 33.6K / G4
	OR		
12	OT12	12345678901234567890	ON / 33.6K / G4
	OR		
13	OT13	12345678901234567890	ON / 33.6K / G4
	OR		
14			ON / 33.6K / G4
	OR		
15			ON / 33.6K / G4
	OR		
16			ON / 33.6K / G4
	OR		

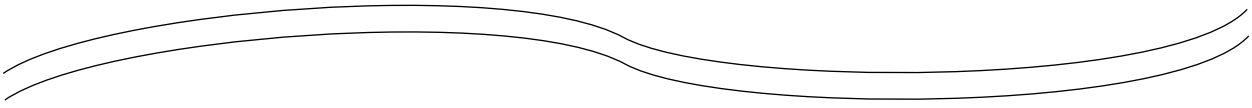
25			ON / 33.6K / G4
	OR		
26			ON / 33.6K / G4
	OR		
27			ON / 33.6K / G4
	OR		
28			ON / 33.6K / G4
	OR		
29			ON / 33.6K / G4
	OR		
30			ON / 33.6K / G4
	OR		

Figure 1.7 (1/8) Telephone Directory

TELEPHONE DIRECTORY P2

02/14/2003 12:00
ID=ODS

LOCATION ID		TEL NO.	G3-ECHO/G3-RATE/MODE
ONE TOUCH			
31 ABCDEFGHIJKLMNO		12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
	OR	12345678901234567890123456789012345678901234567890	
32			OFF / 9.6K / G3
	OR		
33			ON / 33.6K / G4
	OR		
34			ON / 33.6K / G4
	OR		
35			ON / 33.6K / G4
	OR		
36			ON / 33.6K / G4
	OR		
37			ON / 33.6K / G4
	OR		
38			ON / 33.6K / G4
	OR		
39			ON / 33.6K / G4
	OR		
40			ON / 33.6K / G4
	OR		
AUTO DIAL			
001 ABCDEFGHIJKLMNO		12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
002 AD02		12345678901234567890123456789012	ON / 33.6K / G4
003 AD03		12345678901234567890	ON / 33.6K / G4
004			ON / 33.6K / G4
005			ON / 33.6K / G4
006			ON / 33.6K / G4
007			ON / 33.6K / G4
008			ON / 33.6K / G4
009			ON / 33.6K / G4
010			ON / 33.6K / G4
011			ON / 33.6K / G4
012			ON / 33.6K / G4
013			ON / 33.6K / G4
014			ON / 33.6K / G4
015			ON / 33.6K / G4
016			ON / 33.6K / G4
017			ON / 33.6K / G4
018			ON / 33.6K / G4
019			ON / 33.6K / G4
020			ON / 33.6K / G4



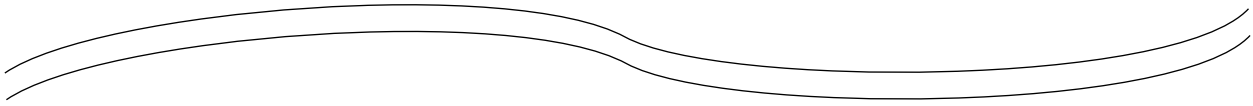
041			ON / 33.6K / G4
042			ON / 33.6K / G4
043			ON / 33.6K / G4
044			ON / 33.6K / G4
045			ON / 33.6K / G4

Figure 1.7 (2/8) Telephone Directory

TELEPHONE DIRECTORY P3

02/14/2003 12:00
ID=ODS

	LOCATION ID	TEL NO.	G3-ECHO/G3-RATE/MODE
AUTO DIAL			
046	AD46	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
047	AD47	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
048	AD48	12345678901234567890	ON / 33.6K / G4
049			ON / 33.6K / G4
050			ON / 33.6K / G4
051			ON / 33.6K / G4
052			ON / 33.6K / G4
053			ON / 33.6K / G4
054			ON / 33.6K / G4
055			ON / 33.6K / G4
056			ON / 33.6K / G4
057			ON / 33.6K / G4
058			ON / 33.6K / G4
059			ON / 33.6K / G4
060			ON / 33.6K / G4
061			ON / 33.6K / G4
062			ON / 33.6K / G4
063			ON / 33.6K / G4
064			ON / 33.6K / G4
065			ON / 33.6K / G4
066			ON / 33.6K / G4
067			ON / 33.6K / G4
068			ON / 33.6K / G4
069			ON / 33.6K / G4
070			ON / 33.6K / G4



091			ON / 33.6K / G4
092			ON / 33.6K / G4
093			ON / 33.6K / G4
094			ON / 33.6K / G4
095			ON / 33.6K / G4
096			ON / 33.6K / G4
097			ON / 33.6K / G4
098			ON / 33.6K / G4
099			ON / 33.6K / G4
100			ON / 33.6K / G4
101			ON / 33.6K / G4
102			ON / 33.6K / G4
103			ON / 33.6K / G4
104			ON / 33.6K / G4
105			ON / 33.6K / G4
106			ON / 33.6K / G4
107			ON / 33.6K / G4
108			ON / 33.6K / G4
109			ON / 33.6K / G4
110			ON / 33.6K / G4

Figure 1.7 (3/8) Telephone Directory

TELEPHONE DIRECTORY P4

02/14/2003 12:00
ID=ODS

AUTO DIAL	LOCATION ID	TEL NO.	G3-ECHO/G3-RATE/MODE
111	AD111	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
112	AD112	12345678901234567890123456789012345678901234567890	ON / 33.6K / G4
113	AD113	12345678901234567890	ON / 33.6K / G4
114			ON / 33.6K / G4
115			ON / 33.6K / G4
116			ON / 33.6K / G4
117			ON / 33.6K / G4
118			ON / 33.6K / G4
119			ON / 33.6K / G4
120			ON / 33.6K / G4
121			ON / 33.6K / G4
122			ON / 33.6K / G4
123			ON / 33.6K / G4
124			ON / 33.6K / G4
125			ON / 33.6K / G4
126			ON / 33.6K / G4
127			ON / 33.6K / G4
128			ON / 33.6K / G4
129			ON / 33.6K / G4
130			ON / 33.6K / G4



142			ON / 33.6K / G4
143			ON / 33.6K / G4
144			ON / 33.6K / G4
145			ON / 33.6K / G4
146			ON / 33.6K / G4
147			ON / 33.6K / G4
148			ON / 33.6K / G4
149			ON / 33.6K / G4
150			ON / 33.6K / G4

Figure 1.7 (4/8) Telephone Directory

TELEPHONE DIRECTORY P5

02/14/2003 12:00
ID=ODS

GROUP NUMBER = #1 #2 #3 #4 #5

<#1 ONE TOUCH>
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
<#1 AUTO DIAL>
001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023
024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046
047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069
070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092
093 094 095 096 097 098 099 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115
116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138
139 140 141 142 143 145 146 147 148 149 150
<#2 ONE TOUCH>

<#2 AUTO DIAL>

<#3 ONE TOUCH>

<#3 AUTO DIAL>

<#4 ONE TOUCH>

<#4 AUTO DIAL>

<#5 ONE TOUCH>

<#5 AUTO DIAL>

Figure 1.7 (5/8) Telephone Directory

TELEPHONE DIRECTORY P6

02/14/2003 12:00
ID=ODS

GROUP NUMBER = #6 #7 #8 #9 #10

<#6 ONE TOUCH>
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
<#6 AUTO DIAL>
001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023
024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046
047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069
070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092
093 094 095 096 097 098 099 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115
116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138
139 140 141 142 143 145 146 147 148 149 150
<#7 ONE TOUCH>

<#7 AUTO DIAL>

<#8 ONE TOUCH>

<#8 AUTO DIAL>

<#9 ONE TOUCH>

<#9 AUTO DIAL>

<#10 ONE TOUCH>

<#10 AUTO DIAL>

Figure 1.7 (6/8) Telephone Directory

TELEPHONE DIRECTORY P7

02/14/2003 12:00
ID=ODS

GROUP NUMBER = #11 #12 #13 #14 #15

<#11 ONE TOUCH>
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
<#11 AUTO DIAL>
001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023
024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046
047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069
070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092
093 094 095 096 097 098 099 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115
116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138
139 140 141 142 143 145 146 147 148 149 150
<#12 ONE TOUCH>

<#12 AUTO DIAL>

<#13 ONE TOUCH>

<#13 AUTO DIAL>

<#14 ONE TOUCH>

<#14 AUTO DIAL>

<#15 ONE TOUCH>

<#15 AUTO DIAL>

Figure 1.7 (7/8) Telephone Directory

TELEPHONE DIRECTORY P8

02/14/2003 12:00
ID=ODS

GROUP NUMBER = #16 #17 #18 #19 #20

<#16 ONE TOUCH>
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
<#16 AUTO DIAL>
001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016 017 018 019 020 021 022 023
024 025 026 027 028 029 030 031 032 033 034 035 036 037 038 039 040 041 042 043 044 045 046
047 048 049 050 051 052 053 054 055 056 057 058 059 060 061 062 063 064 065 066 067 068 069
070 071 072 073 074 075 076 077 078 079 080 081 082 083 084 085 086 087 088 089 090 091 092
093 094 095 096 097 098 099 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115
116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138
139 140 141 142 143 145 146 147 148 149 150
<#17 ONE TOUCH>

<#17 AUTO DIAL>

<#18 ONE TOUCH>

<#18 AUTO DIAL>

<#19 ONE TOUCH>

<#19 AUTO DIAL>

<#20 ONE TOUCH>

<#20 AUTO DIAL>

Figure 1.7 (8/8) Telephone Directory

1.8 Configuration

1.8.1 Print conditions

1) Setting by user
   Two pages shall be printed out. Setting only is printed on the first page and Dial Parameter setting, SYSTEM DATA PRG. and Internet FAX/ISDN registration.are printed on the second page.

2) Setting by service persons
   Printed as the third page when Service Bit = ON.

1.8.2 Report image

CONFIGURATION P1

02/14/2003 12:00
ID=ODS

FUNCTION LIST

01:MCF (SINGLE-LOC.) OFF	02:MCF (MULTI-LOC.) ON	03:ERR.REPORT (MCF) ON
04:IMAGE IN MCF PART.	05:SENDER ID. ON	06:MONITOR VOLUME LOW
07:BUZZER VOLUME MIDDLE	08:CLOSED NETWORK OFF	09:TX MODE DEFAULT STD/NORMAL
10:T/F TIMER PRG. 35SEC	11:RING RESPONSE 1 RING	12:DISTINCTIVE RING OFF
13:PAPER SIZE A4	14:USER LANGUAGE ENGLISH	15:INCOMING RING ON
16:REMOTE RECEIVE OFF	17:MEM./FEEDER SWITCH MEMORY	18:POWER SAVE MODE ON
19:ECM FUNCTION ON	20:REMOTE DIAGNOSIS OFF	21:PC/FAX SWITCH ON
22:NO TONER MEM.RX OFF	23:MEM.FULL SAVE ON	24:CONTINUOUS TONE OFF
25:INSTANT DIAL ON	26:RESTRICT ACCESS OFF	27:WIDTH REDUCTION OFF
28:TONER SAVE OFF	29:CNG COUNT 1	30:600DPI FAX TX ON
31:ISDN DIAL MODE G4	32:SPEECH RECEIVE ON	33:OPTION I/F MODE SCN
34:PAPER SIZE CHECK ON	35:PRINT JOB T.O. 30SEC	36:FLATBED TX MODE STD
37:FLATBED TX T.O. 30SEC	38:HALF SIZE SCAN OFF	39:AUTO TRAY SW. ON

Figure 1.8 (1/3) Configuration Report (User)

CONFIGURATION P2

```
                                                    02/14/2003  12:00
                                                    ID=ODS

DIAL PARAMETER

    REDIAL TRIES         3 TRY                 REDIAL INTERVAL     3 MIN
    DIAL TONE DETECT     OFF                   BUSY TONE DETECT    ON
    MF(TONE)/DP(PULSE)   MF                    PULSE DIAL RATE     10 PPS
    PULSE MAKE RATIO     39%                   PULSE DIAL TYPE     N
    MF(TONE) DURATION    100MS                 PBX LINE            OFF
    PBX TYPE             NORMAL                AUTO START          ON
    DIAL PREFIX          OFF

    TEL NO.              = 12345678901234567890
    CALL BACK NO.        = 12345678901234567890
    FORWARDING NO.       =

    ISDN COUNTRY CODE    = 081
    ISDN(G4) NO.         = 12345678901234567890
    ISDN(G4) ID          = ABCDEFGHIJ
    ISDN SUB NO.         = 1234567890123456789
    ISDN CALLED NO.      = 12345678901234567890

I-FAX NIC OPTIONS

<<I-FAX NIC SETTINGS>>
    TEXT PRINT           ON                    HEADER PRINT        TYPE1
    CODING MODE          MH                    EX.FINE MODE        300 DPI
    SENDER ID (EMAIL)    OFF                   SEND FILE FORMAT    TIFF
    SEND NOTIFICATION    OFF                   I-FAX NIC UPDATE    ON

<<POP INTERVAL>>         DAILY [00:01] [03:01] [05:01] [07:01]

<<NETWORK SETTINGS>>
    IP ADDRESS           [202.250.105. 26]
    SUBNET MASK          [202.250.150.254]
    DEFAULT GATEWAY      [255.255.255.  0]
    SMTP SERVER NAME     [-------------------------- MAX64 --------------------------]
    POP SERVER NAME      [-------------------------- MAX64 --------------------------]
    POP USER ID          [ABCDEFGHIJKLMNOP]
    POP PASSWORD         [****************]
    DNS P.SRV ADDR.      [202.101.233.105]
    DNS S.SRV ADDR.      [202.101.233.105]
    FAX EMAIL ADDR.      [-------------------------- MAX64 --------------------------]


    MAC ADDRESS          00.C0.26.39.23.38
```

Figure 1.8 (2/3) Configuration Report (User)

CONFIGURATION P3

02/14/2003 12:00
ID=ODS

FUNCTION LIST

01:SERVICE BIT ON	02:MONITOR CONT. ON	03:COUNTRY CODE TWN
04:TIME/DATE PRINT OFF	05:TSI PRINT ON	06:TAD MODE TYPE2
07:REAL TIME DIAL TYPE2	08:TEL/FAX SWITCH ON	09:MDY/DMY MDY
10:LONG DOC. SCAN ON	11:TONE FOR ECHO OFF	12:MH ONLY OFF
13:H/MODEM RATE 33.6K	14:T1(TX) TIMER VALUE 059	15:T1(RX) TIMER VALUE 035
16:T2 TIMER VALUE 130	17:DIS BIT32 ON	18:ERR CRITERION VALUE 10
19:OFF HOOK BYPASS OFF	20:NL EQUALIZER 0 DB	21:ATTENUATOR 10 DB
22:T/F TONE ATT 10 DB	23:MF. ATT 3 DB	24:RING DURA. * 10MS 12
25:CML TIMING * 100MS 03	26:LED HEAD STROBE 10100	27:MEDIA TYPE MEDIUM
28:TR LATCH CURRENT 0	29:NSF SWITCH OFF	30:ID/TSI PRIORITY ID
31:TONER COUNT CLEAR OFF	32:PARALLEL PICK UP OFF	33:V.34 TX RETRY ON
34:SYMBOL RATE 3429	35:LEASED LINE OFF	36:CED SEND ON
37:TOP FEED OMM	38:BOTTOM FEED OMM	39:A/R FULL PRINT ON
40:COMMAND TIME OUT 30 SEC	41:G3/G4 LEARNING ON	42:LLC CHECK OFF
43:G3 SETUP 3.1K AUDIO		

44:G3 FALLBACK CAUSE

BA01	BA02	BA03	BA06	BA07
BA10	BA11	BA12	BA13	BA15
BA16	BA1A	BA1B	BA1C	BA1D
BA1E	BA1F	BA22	BA26	BA29
BA2A	BA2B	BA2C	BA2F	BA31
BA32	BA39	BA3A	BA3F	BA41
BA42	BA45	BA46	BA4F	BA51
BA52	BA53	BA54	BA55	BA56
BA58	BA5B	BA5F	BA60	BA61
BA62	BA63	BA64	BA65	BA66
BA6F	BA7F	BB01	BB07	

Figure 1.8 (3/3) Configuration Report (Service bit = ON)

ACTIVE MEMORY FILES

07/01/2003 17:05
ID=ODC

RECEPTION

ENTRIES	PAGES
05	20

PERSONAL BOX

BOX NO.	MODE	ENTRIES	PAGES
01	CONF	03	20
02	CONF	01	02
05	POLL	01	05

POLLING TX/RX

DATE	TIME	DISTANT STATION ID	MODE	PAGES
			POLL TX	03
07/02	12:05	OKI	POLL RX	

TRANSMISSION

DATE	TIME	DIDTANT STATION ID	MODE	PAGES
07/01	20:00	OKI DATA SYSTEMS	TX	03
07/01	12:03	0273242117	TX	01
07/01	19:00	ODC TAKASAKI	TX	02

Figure 1.9 Active Memory Files

G3 Protocol Dump Image

PROTOCOL DUMP P1

12/24/2002 19:00
ID=OKI TAKASAKI

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
12/24	18:56	00'33"	12345678901234567890 1234	TX	002	OK 0000

FCF

TX		NSS	PPS_MPS	PPS_EOP	DCN
RX	NSF DIS	CFR	MCF	MCF	
TX					
RX					
TX					
RX					
TX					
RX					

TRANSMITTED FRAME

DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
FF C8 C4 00 00 84 80 30 40 E4 10 40 B8 39 20 0C 0C 0C 0C 30 82 4A AA 82 42 92 12 CA 04 92 D2 F2
80 40 80 10 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM JM
00 00 00 00 00 00 00 00

SYMBOL RATE(SPS) =
DATA SIGNALLING RATE(BPS) =

MODEM TRACE
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Figure 1.10 (1/2) Protocol Dump Report (G3)

PROTOCOL DUMP P2

12/24/2002 19:00
ID=OKI TAKASAKI

RECEIVED FRAME

DIS
FF C8 01 00 73 17 22 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DCS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
FF C0 04 00 00 84 80 08 40 F4 10 40 F9 7D 20 0C 0C 0C 0C 90 F2 52 72 F2 12 04 92 D2 F2 80 F0 80
40 80 50 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM JM
00 00 00 00 00 00 00 00

Figure 1.10 (2/2) Protocol Dump Report (G3)

1.9 Self Diagnosis Report

1.9.1 Print conditions

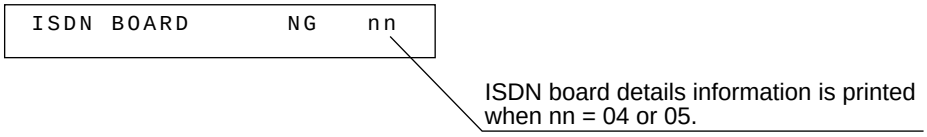
1) The following self diagnosis results are always printed.
   - CPU - ROM, FLASH - PROGRAM / LANGUAGE / DEFAULT version read and hush check.
   - CPU-RAM, FLASH - RAM read/write check
   - Image processor LSI RAM check
   - Setting DEFAULT TYPE and reading clock at self diagnosis execution.

2) The following printing differs depending on the condition of option provided or not.

   *2 Printed only when MFP option is provided. “MFG:,” “MDL:,” and “DES:” information is printed out of ID character strings of PnP device. Small letters can be printed. The maximum number of each of letters and characters shall be 45.

   *3 Printing is available for FX-060VP only when option memory is mounted. (“2M.”, “4M” or “8M”)

   *4 Printed only when ISDN option is provided.
   When performing self diagnosis, ISDN board test is executed and its result (error information at power on is partially adopted) is printed.
   The print contents at ISDN error are as shown below.



   nn=01: Waiting PC loading
   When turning on power, BOOT2 signal from HOST side was in PC loading mode.

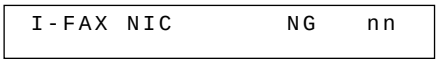
   nn=02: Board faulty
   When turning on power, PROGRAM HUSH of ISDN board was no good.

   nn=03: Board faulty
   Initial sequence between boards was not executed in spite of elapse of 10 seconds after turning on power. (Status window did not obtain normal value.)

   nn=04: Board faulty
   Initial sequence of ISDN LSI was not executed when turning on power. (No response to command, Response no good)

   nn=05: ISDN LSI faulty
   ISDN LSI test function (ROM/RAM test, loop test) resulted no good.

   *5 Indicate when installed with an I-FAX NIC.
   Perform an I-FAX NIC option test upon self-diagnosing and indicate the results.
   The indications upon generating an I-FAX NIC option error are listed below.

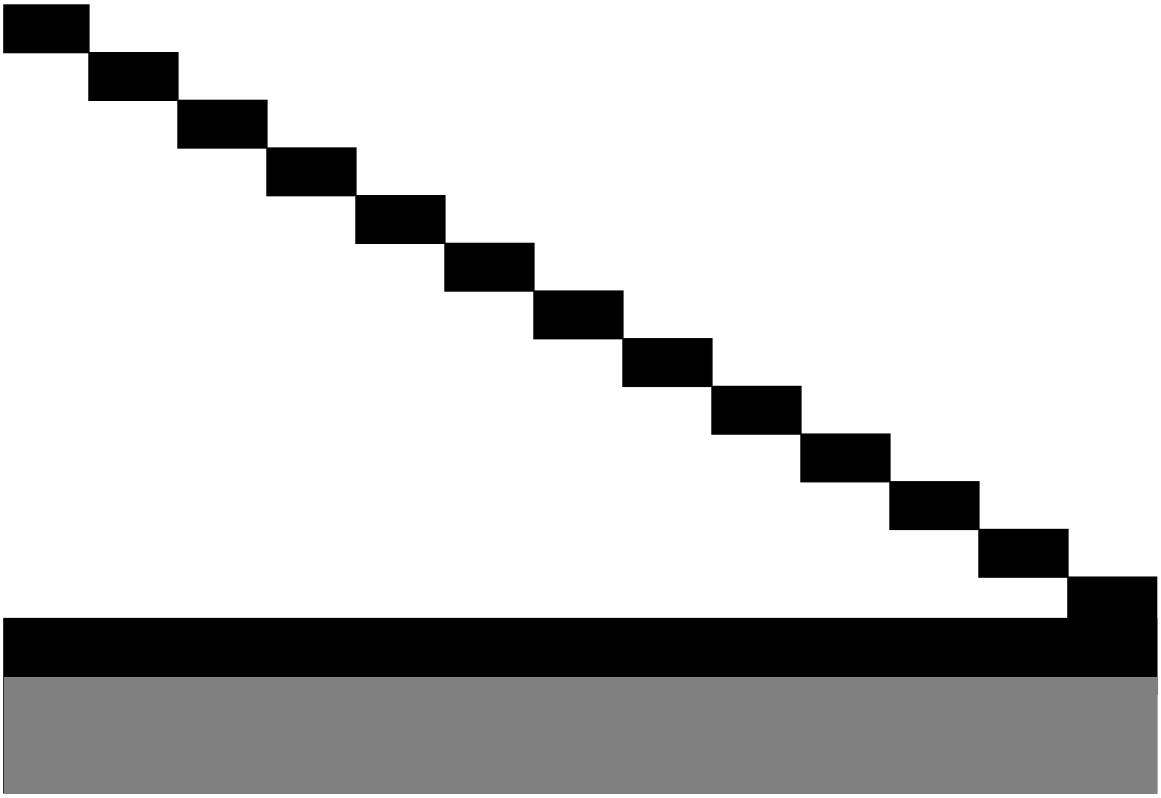


   *6 Indicate when installed with an I-FAX NIC option. (Separate versions by inserting a hyphen (-) in between.)
   Indicate the F/W version for an I-FAX NIC option in six digits.
   Indicate the boot block version for an I-FAX NIC option in four digits.
   Indicate the hardware version for an I-FAX NIC option in three digits.
   Only the set value upon an I-FAX NIC option board error is to be blank.

   *7 Indicate the MAC address when installed with an I-FAX NIC option.
   Only the set value upon an I-FAX NIC option board error is to be blank.

   *8 Indicate the title when installed with a 1284 board. The indicated line is to be in the same position as *7 (line indicating I-FAXING NIC option data).

Report Image

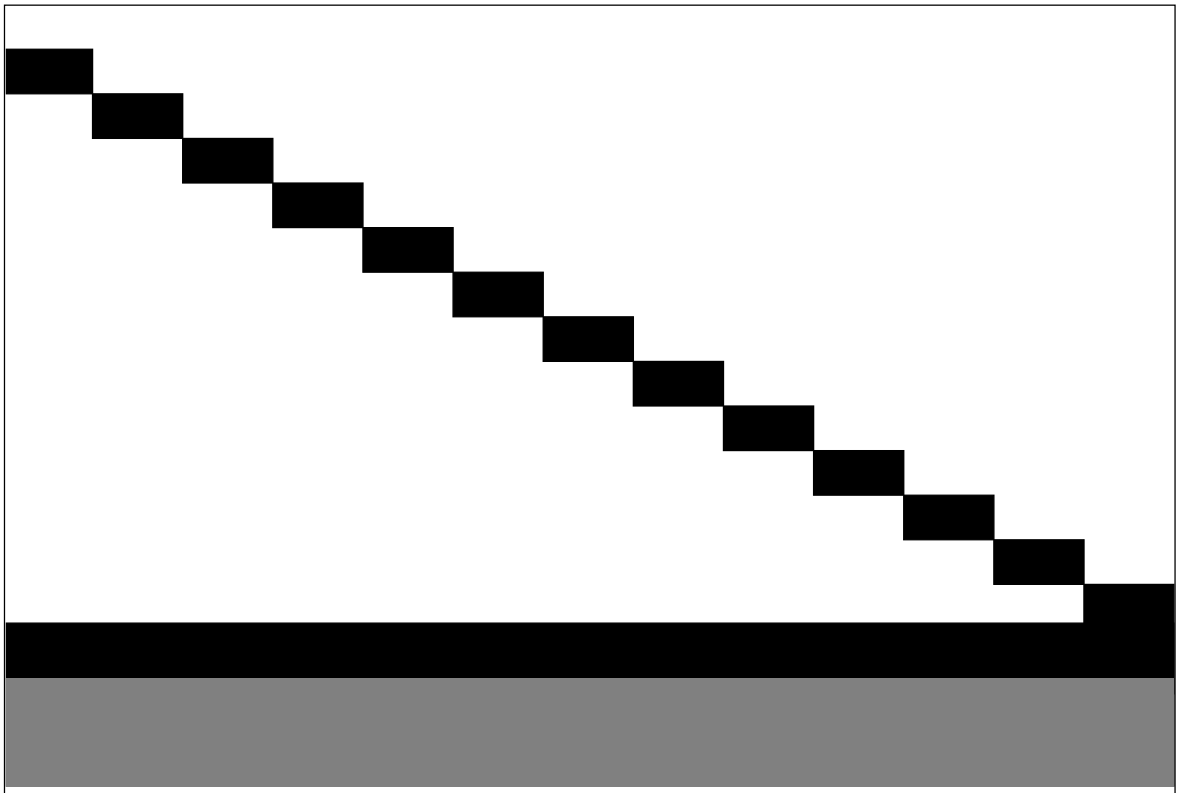


```
CPU-ROM   VERSION   aaaa
          HASH      OK    hhhh
CPU-RAM             OK
PROGRAM   VERSION   aaaa
          HASH      OK    hhhh
LANGUAGE  VERSION   aaaa
          HASH      OK    hhhh
DEFAULT   VERSION   aaaa
          HASH      OK    hhhh
RAM1                OK
RAM2                OK
DEFAULT TYPE        01    03/03/2002  12:00
MODEM     VERSION   hhhh
1284 BOARD                                    *8
DEVICE ID           MFG:OKI DATA CORP;        *2
                    MDL:FX-060VP;             *2
                    DES:OKI FX-060VP;         *2
OPT-RAM   4M        OK                        *3
ISDN BOARD          OK
CPU-ROM   VERSION   aaaa
          HASH      OK    hhhh
CPU-RAM             OK                        *4
PROGRAM   VERSION   aaaa
          HASH      OK    hhhh
RAM       2M        OK
DPRAM     2K        OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Figure 1.11 Self Diagnosis

The image when installed with an I-FAX NIC.



```
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
LANGUAGE  VERSION  aaaa
          HASH     OK   hhhh
DEFAULT   VERSION  aaaa
          HASH     OK   hhhh
RAM1               OK
RAM2               OK
DEFAULT   TYPE     01   11/01/2002  12:00
MODEM     VERSION  hhhh
I-FAX NIC          OK   nn                      *5
PROGRAM   VERSION  aaaaaa-nnnn-nnn              *6
MAC ADDRESS        00.C0.26.39.23.38           *7

ISDN BOARD         OK
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK                          *4
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
RAM       2M       OK
DPRAM     2K       OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Letter size with 23mm bottom margin.

G4 Protocol Dump
The printing image is as follows:

PROTOCOL DUMP P1

08/25/2003 19:00
ID=OKI TAKASAKI

DATA	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
04/19	14:49	00’07"	OKI SHIBAURA(6412)	TX-G4	02	OK 0000

Dch.

TX	SETUP CONN-ACK +Bch+ DISC REL-C
RX	STATUS SETUP-ACK CONN +Bch+ REL
TX	
RX	

Bch.

TX	SABM SQ CR TCR CSS CDCL CDS CDUI CDPB CDUI CDPB CDUI CDPB CDUI CDUI
RX	UA SF CC TCA RSSP RDCLP RDPBP RDPBP RDPBP
TX	CDE CQ DISC
RX	RDEP CF UA
TX	
RX	
TX	
RX	

COMMN MODE
T.90

COMMN SPEED
64 kbps

FLOW CONTROL PA RAM.
2048(SPS)/7(SWS)/2048(RPS)/7(RWS)

TID
081-0273242117 =OKITAKASAKI

SETUP
08 01 05 05 04 02 88 90 6C 02 00 80 70 0B 80 30 32 37 33 32 38 30 30 30 31 7C 03 88 90 A9 7D 02
91 A1 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

DISC
45 16

Figure 1.12 (1/2) Protocol Dump Report P1 (G4)

PROTOCOL DUMP P2

08/25/2003 19:00
ID=OKI TAKASAKI

```
CR/CN
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CA/CC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CQ/CI
00 00 00 00 00

RQ/RI
00 00 00 00 00

SQ/SI
00 00 00 00 00

TBR
 00

TCC
00

TCR
09 E0 00 00 00 01 00 C0 01 0B 00 00 00 00 00 00

TCA
09 D0 00 01 00 01 00 C0 01 0B 00 00 00 00 00 00

CSS
0D 6F 01 2A 0A 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 37 2D 30 38 2D 32 37 2D 31 34 2D 34 34 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 2F 00 01 79 00 E0 1C C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 C4 04
30 30 30 30 E1 0B E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RSSP/RSSN
0E 69 01 2A 09 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 38 2D 30 36 2D 30 32 2D 31 33 3A 34 36 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 29 00 01 79 00 E0 16 C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 E1 0B
E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

CDCL
3D 58 12 01 3C C1 4D A4 4B 80 01 02 81 01 00 A2 3C A2 32 30 08 80 02 26 C0 81 02 36 CE 30 08 80
02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C 30 08 80 02 2E 23 81 02 41 25 30 08 80 02 36
CE 81 02 4D 80 A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0 01 01 E8 04 00 01 49 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RDCLP
3E 40 C1 3E A4 3C 80 01 02 81 01 00 A2 25 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30 08 80 02 2F 6C
81 02 43 2C 30 08 80 02 2F 6D 81 02 43 2C A4 03 8B 01 04 E4 0D E0 06 02 01 02 02 01 03 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDS
2D 40 29 03 30 30 31 C1 39 A4 37 80 01 02 81 01 00 A2 28 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30
08 80 02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDUI
01 00 A2 03 02 01 00 A2 1B 02 01 02 31 16 A4 08 80 02 26 C0 81 02 36 CE A6 05 A1 03 82 01 01 E9
03 C0 01 00 A3 80 31 06 A2 04 80 02 06 C0 24 80 04 82 07 90 01 01 00 00 00 00 00 00 00 00 00 00
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

Figure 1.12 (2/2) Protocol Dump Report P2 (G4)

Transmission (Except Polling TX)

Table 1.3 Multiple Function Combinations for Transmissions

○ : Combination Possible
× : Combination Impossible

	Single Loc. TX	Broadcast TX	Delayed TX	Confidential TX	Relay Broadcast Initiate	Manual TX	Chain Dialing	Automatic Alternate Selecting Call	Closed User Group	Page Retransmit	Redial if Communication Error in Memory TX	Sender ID	Voice Request (Initiate)	Voice Request (Reception)	Call Back Message	Broadcast Entry Report	MCF (Single)	MCF (Error)	MCF (Multi)	MCF (with Image)
Feeder TX	○	×	○	○	○	○	○	○	○	×	×	○	○	○	○	×	○	○	×	×
Instant Dialing	○	×	×	○	○	×	○*1	○	○	○*2	○*2	○*3	×	×	×	×	○	○	×	○*4
Memory TX	○	○	○	○	○	×	×	○	○	○	○	○	×	×	×	○	○	○	○	○
Single Loc. TX		×	○	○	○	○	○	○	○	○	○	○	○	○	○	×	○	○	×	×
Broadcast TX			○	×	×	×	×	×	○	○	○	○	×	×	×	○	×	○	○	○
Delayed TX				×	×	×	×	○	○	○	○	○	○	○	○	○	○	○	○	○
Confidential TX					×	×	×	×	○	×	×	○	×	×	×	×	○	○	×	×
Relay Broadcast Initiate						×	×	×	○	×	×	○	×	×	×	×	○	○	×	×
Manual TX							○	×	○	×	×	○	○	○	○	×	○	○	×	×
Chain Dialing								×	○	×	×	○	○	○	○	×	○	○	×	×
Automatic Alternate Selecting Call									○	○	○	○	○	○	○	×	○	○	○	○
Closed User Group										○	○	○	○	○	○	○	○	○	○	○
Page Retransmit											○	○	×	×	×	○	○	○	○	○
Redial if Communication Error in Memory TX												○	×	×	×	○	○	○	○	○
Sender ID													○	○	○	○	○	○	○	○
Voice Request (Initiate)														○	○	×	○	○	×	×
Voice Request (Reception)															○	×	○	○	×	×
Call Back Message																×	○	○	×	×
Broadcast Entry Report																	×	○	○	○
MCF (Single)																		×	×	○
MCF (Error)																			○	○

*1 Only previous call origination
*2 Depending on the conditions of image memory capacity.
*3 TSI/CSI and Personal ID are impossible.
*4 When memory full does not occur during reading.

Reception (Except Polling RX)

Table 1.4 Multiple Function Combinations for Reception

○ : Combination Possible
× : Combination Impossible

	In-between Memory Reception	Memory Reception	Memory Only Reception	Confidential Reception	Closed Network	TSI Print	TIME/DATE Print	Voice Request (Initiate)	Voice Request (Reception)	Manual Reception	Remote Reception	Automatic Answer [FAX]	TEL/FAX Automation Switch	TAD
Paper Reception	○	○	×	×	○	○	○	○	○	○	○	○	○	○
In-between Memory Reception		×	×	×	○	○	○	○	○	○	○	○	○	○
Memory Reception			*1	×	○	○	○	×	×	○	○	○	○	○
Memory Only Reception				○	○	○	○	×	×	*2	*2	○	○	○
Confidential RX					○	○	○	×	×	○	○	○	○	○
Closed Network						○	○	○	○	○	○	○	○	○
TSI Print							○	○	○	○	○	○	○	○
TIME/DATE Print								○	○	○	○	○	○	○
Voice Request (Initiate)									○	○	○	○	○	○
Voice Request (Reception)										○	○	○	○	○
Manual Reception											×	○	○	○
Remote Reception												○	○	○

*1: Handled as memory reception if the real time print is not available at the cancellation of the mode.
*2: Handled as paper reception.

Polling TX

Table 1.5 Function Combination for Polling TX

	Feeder TX	Memory TX	Closed Network	Page Re-transmit	Redial for Memory TX (Error)	Sender ID	Voice Request (Initiate)	Voice Request (Reception)	Call Back Message	MCF (Single)	MCF (Error)	MCF (Mulriple)	Manual TX	Automatic Answer [FAX]	TEL/FAX	TAD	Memory Only Reception
Polling TX	○	○	○	○	×	○	×	×	×	○	○	×	×	○	○	○	○

Note: When reception mode is PC, Polling (TX) from PC.

Polling RX

Table 1.6 Function Combination for Polling RX

	Paper Reception	In-between Memory Reception	Initial Memory Reception	Memory Only Reception	Closed Network	TSI Print	TIME/DATE Print	Voice Request (Initiate)	Voice Request (Reception)	Manual Reception	Single Location	Broadcast	Chain Dialling	Automatic Alternate Selecting Call	MCF (Single)	MCF (Error)	MCF (Multiple)
Polling RX	○	○	×	×	○	○	○	×	×	*1	○	×	×	×	×	×	×

*1 It is possible when remote machine sends DTC.

Note: Even if the reception mode is PC, it follows FAX operation.

Communication Mode		Functions	Automatic Alternate Selecting Call	Closed Network	Sender ID *4	Page Retransmit	Voice Request (Initiate)	Stop	Voice Request (Reception)	TX Preparation	Call Back Message	Redial if Communication Error in Memory TX
TX	Feeder	Manual Calling	×	○	○	×	○	○	○	× *1	○	×
		Automatic Call Origination — Confidential Initiate	×	○	○	×	×	○	×	× *1	×	×
		Automatic Call Origination — Relay Broadcast Initiate	×	○	○ *2	×	×	○	×	× *1	×	×
		Automatic Call Origination — Delayed	○	○	○	×	○	○	○	× *1	○	×
			○	○	○	×	○	○	○	× *1	○	×
		Auto Reception — Polled	×	○	○	×	×	○	×	× *1	×	×
	Memory	Automatic Call Origination — Delayed — Single	○	○	○	○ *3	×	○	×	○	×	○
		Automatic Call Origination — Delayed — Broadcast	○	○	○ *2	○ *3	×	○	×	○	×	○
		Automatic Call Origination — Single	○	○	○	○ *3	×	○	×	○	×	○
		Automatic Call Origination — Broadcast	○	○	○ *2	○ *3	×	○	×	○	×	○
		Automatic Call Origination — Poll	×	○	○	×	×	○	×	○	×	×
		Instant dialing (single)	○	○	○ *6	×	×	○	×	× *1	×	○ *5

Communication Mode		Functions	Automatic Alternate Selecting Call	Closed Network	TSI/ TIME/DATE Printing	In-between Memory Reception	Voice Request (Initiate)	Stop	Voice Request (Reception)	TX Preparation
RX	Memory	Manual/ Automatic — Confidential	×	○	○	×	×	×	×	○
		Manual/ Automatic — Memory Only Reception	×	○	○	×	×	×	×	○
		Manual/ Automatic — Initial Memory Reception	×	○	○	×	×	×	×	○
	Paper		×	○	○	○	○	×	○	○
		Automatic Call Origination — Polling	×	○	○	○	×	×	×	○

*1: It is possible after the end of sanning.
*2: Remote locations are not displayed.
*3: In case of Non-ECM mode.
*4: Session number is available.
*5: Depending on the conditions of memory available.
*6: TSI/CSI and Personal ID are not displayed.

Table 1.7 Function Combinations during Communications

Table 1.8 Preparation TX as Dual Access

1'st \ 2'nd		PC1 ON				
		Reception	Prefeed	Remote input display	Preparation TX	Scanning to Memory
ON HOOK	Standby	○	○	○	○	○
	During FAX Calling	×	○	×	×	○
Call Reception	During RING RESPONSE	×	○	○	○	○
	During detection of TEL/FAX	×	○	×	×	×
	During TAD detection	×	○	×	×	×
	1st Phase B	×	○	○	○	○
Feeder TX	Calling ~ Transmission	×	×	×	×	○
	Transmission after scanning	×	○	○	○	○
Memory TX	During Scanning	○	×	×	×	○
	Dialling and Calling	×	○	○	○	○
	During TX	×	○	○	○	○
Polling RX	Dialling and Calling	×	○	○	○	○
Memory RX		×	○	○	○	○
Paper RX	Reception and print	×	○	○	○	○
	Residual Print Processing	○	○	○	○	○
	Memory reception	×	○	○	○	○
During voice request is initiated.		×	○	×	×	×
During copy		○	○	×	×	×
During automatic printing of received messages		○	○	○	○	○
During automatic printing of reports		○	○	○	○	○
During operation		×	○	×	×	×

* Operation during communication is not determined yet.

No.	User Setting Items	Setting Selection	1 ODA	2 LTA	3 E-INT	4 E-GER	5 E-FRE	6 0-AUS	7 0-NZL	8 0-SIN	9 0-HNG	10 L-AG	10 IRL	11 DEN	13 SWE	14 NOR	15 SUI	16 AUT	17 HOL	18 ITA	19 ESP	20 CHN	21 Factory	Note
1	MCF (single-loc.)	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
2	MCF (multi-loc.)	ON/OFF	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	OFF	ON	OFF	
3	ERR.REPORT (MCF.)	ON/OFF	ON	ON	OFF	ON	OFF	ON	ON	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF	ON	ON	OFF	
4	IMAGE IN MCF.	OFF/PART/WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	WHOLE	
5	SENDER ID	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
6	MONITOR VOLUME	OFF/LOW/MID./H-MID/HIGH	MID.	MID.	MID.	MID.	MID.	OFF	MID.	MID.	MID.	MID.	MID.	MID.	MID.	LOW	MID.	MID.	MID.	HIGH	HIGH	MID.	HIGH	
7	BUZZER VOLUME	LOW/MID/HIGH	MID	MID	MID	MID	MID	MID	MID	MID	MID	MID	MID	LOW	MID	LOW	MID	MID	MID	HIGH	HIGH	MID	HIGH	
8	CLOSED NETWORK	OFF/ T/R / RX	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
9	TX MODE DEFAULT	STD/FINE/EX-FINE/PHOTO-NORMAL/DARK/LIGHT	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	STD NOR	
10	T/F TIMER PRG.	20 sec/35 sec	35	35	20	35	20	35	35	35	35	35	20	20	20	35	35	35	20	35	20	35	35	
11	RING RESPONSE	1 ring/5 sec/10 sec/15 sec/20 sec	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1 ring	1ring	1 ring	1 ring	1ring	5sec	1ring	1ring	1ring	1ring	1 ring	1ring	
12	DISTINCTIVE RING	OFF/ON/SET	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
13	PAPER SIZE	1st Tray=A4/LET./LGL13/LGL14	LET	LET	A4	A4	A4	A4	A4	A4	A4	A4	LET	A4	A4	A4	A4	A4	A4	A4	A4	A4	LET	
14	USER LANGUAGE	LNG1/LNG2/LNG3/LNG4/LNG5	LNG1	LNG1	LNG1	LNG2	LNG2	LNG1	LNG1	LNG1	LNG1	LNG1	LNG1	LNG2	LNG2	LNG2	LNG2	LNG2	LNG2	LNG2	LNG2	LNG1	LNG1	
15	INCOMING RING	OFF/ON/DRC	ON	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	ON	ON	ON	ON	OFF	ON	OFF	ON	ON	
16	REMOTE RECEIVE	OFF/00/11/22/...../88/99/**/###	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	**	11	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
17	MEM./FEED SWITCH	MEMORY/FEEDER	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	MEM.	
18	POWER SAVE MODE	ON/OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	ON	OFF	ON	OFF	
19	ECM FUNCTION	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
20	REMOTE DIAGNOSIS	ON/OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	
21	PC/FAX SWITCH	ON/OFF	OFF	ON	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	
22	NO TONER MEM. RX	ON/OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	
23	MEM. FULL SAVE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
24	CONTINIOUS TONE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
25	INSTANT DIALING	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
26	RESTRICT ACCESS	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
27	WIDTH REDUCTION	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
28	TONER SAVE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
29	CNG COUNT	1-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
30	600 DPI FAX TX	ON/OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
31	ISDN DIAL MODE	G4 MODE/G3 MODE	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	G4	
32	SPEECH RECEIVE	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
33	OPTION I/F MODE	MFPI/SCN./NET.	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	MFPI	
34	PAPER SIZE CHECK	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
35	PRINT JOB T.O.	5 sec/30 sec/5 min	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	
36	FLATBED TX MODE	STD/FINE	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	STD	
37	FLATBED TX T.O.	OFF/30 sec/1 min	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	30sec	
38	HALF SIZE SCAN	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
39	AUTO TRAY SW.	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

Table 1.9 (1/2) User Default Setting

Table 1.9 (2/2) User Default Setting

No.		User Setting Items	Setting Selection	1 ODA	2 LTA	3 E-INT	4 E-GER	5 E-FRE	6 0-AUS	7 0-NZL	8 0-SIN	9 0-HNG	10 L-AG	10 IRL	11 DEN	13 SWE	14 NOR	15 SUI	16 AUT	17 HOL	18 ITA	19 ESP	20 CHN	21 Factory	Note
		I-FAX NIC OPTIONS																							
1		I-FAX NIC SETTINGS																							
	1	TEXT PRINT	ON/OFF	ON	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	2	HEADER PRINT	OFF/TYPE1/TYPE2	TYPE1	TYPE1	OFF	OFF	OFF	TYPE1	TYPE1	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
	3	CODING MODE	MH/MR/MMR	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH	
	4	EX. FINE MIDE	300DPI/600DPI	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	
	5	SENDER ID (EMAIL)	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
	6	SEND FILE FORMAT	TIFF/PDF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	TIFF	
	7	SEND NOTIFICATION	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
	8	I-FAX NIC UPDATE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
2	1	POP INTERVAL	OFF/1MIN/5MIN/10MIN/ 30MIN/60MIN/DAILY	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	5MIN	
3		NETWORK SETTINGS		There is setting data in the NIC side.																					
	1	IP ADDRESS																							
	2	SUBNET MASK																							
	3	DEFAULT GATEWAY																							
	4	SMTP SRV																							
	5	POP SRV																							
	6	POP ID																							
	7	POP PASS.																							
	8	DNS P. SRV ADDR.																							
	9	DNS S. SRV ADDR.																							
	10	FAX EMAIL																							
4		(NETWORK INITIALIZE)																							

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Table 1.10 (1/2) Technical Default Setting

No.	Technical Setting Items	Setting Selection	1 ODA	2 LTA	3 E-INT	4 GER	5 E-FRE	6 0-AUS	7 0-NZL	8 0-SIN	9 0-HNG	10 L-AG	11 IRL	12 DEN	13 SWE	Note
1	SERVICE BIT	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
2	MONITOR CONT.	ON/OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
3	COUNTRY CODE	USA INT'L GBR IRL NOR SWE FIN DEN GER HUN TCH POL SUI AUT BEL HOL FRE POR ESP ITA GRE AUS NZL SIN HNG LTA MEX CHN RUS TWN	USA	LTA	GBR	GER	FRE	AUS	NZL	SIN	HNG	USA	IRL	DEN	SWE	
4	TIME/DATE PRINT	0: OFF/ 1: ONCE/2: ALL	OFF	OFF	OFF	ALL	OFF	ONCE	ALL	ONCE	OFF	OFF	OFF	ONCE	ONCE	
5	TSI PRINT	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
6	TAD MODE	0: OFF/ 1: TYPE1/2: TYPE2/3: TYPE3	TYP2	TYP2	OFF	TYP1	TYP1	OFF	TYP1	OFF	OFF	TYP2	OFF	TYP2	TYP2	
7	REAL TIME DIAL	0: OFF/ 1: TYPE1/2: TYPE2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	
8	TEL/FAX SW	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
9	MDY/DMY	0: MDY/ 1: DMY	MDY	MDY	DMY	DMY	DMY	DMY	DMY	DMY	DMY	MDY	DMY	MDY	MDY	
10	LONG DOC. SCAN	ON/OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	
11	TONE FOR ECHO	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
12	MH ONLY	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
13	H/MODEM RATE	33.6K/28.8K/14.4K/9.6K/4.8K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	
14	T1(TX) TIMER VALUE	010 - 255 sec	59	59	60	60	140	40	40	60	30	59	60	60	60	
15	T1(RX) TIMER VALUE	010 - 255 sec	35	35	35	35	35	35	35	35	35	35	35	35	35	
16	T2 TIMER VALUE	001 - 255 (100ms - 25.5 sec)	130	130	130	60	51	130	130	130	130	130	130	130	130	Base Timer=100ms
17	DIS BIT 32	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
18	ERR. CRITERION	0 - 99	10	10	10	10	10	10	10	10	10	10	10	10	10	
19	OFF HOOK BYPASS	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
20	NL EQULIZER	0 DB/4 DB/8 DB/12 DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	
21	ATTENUATOR	0 - 15dB	11dB	10dB	10dB	10dB	10dB	9dB	9dB	9dB	9dB	11dB	10dB	10dB	10dB	FRE = 7 - 15DB
22	T/F TONE ATT	0 - 15dB	11dB	10dB	9dB	7dB	11dB	9dB	9dB	9dB	9dB	11dB	9dB	10dB	9dB	
23	MF. ATT	0 - 15dB	6dB	7dB	5dB	5dB	5dB	4dB	6dB	4dB	7dB	6dB	5dB	5dB	5dB	
24	RING DURA. *10MS	10 - 99 (*10 ms)	12	12	14	14	60	12	14	14	14	12	14	12	14	
25	CML TIMING *100MS	1 - 19 (*100 ms)	3	3	3	3	15	3	12	12	12	3	3	3	1	
26	HEAD STROBE	00000 - 11111	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	10100	
27	MEDIA TYPE	M/MH/H	M	M	M	M	M	M	M	M	M	M	M	M	M	
28	TR LATCH CURRENT	-2/-1/0/+1/+2	0	0	0	0	0	0	0	0	0	0	0	0	0	
29	NSF SWITCH	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
30	ID/TSI PRIORITY	ID/TSI	ID	ID	ID	TSI	ID	ID	ID	ID	ID	ID	ID	ID	ID	
31	TONER COUNT CLEAR	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
32	PARALLEL PICK UP	ON/OFF	ON	ON	ON	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	
33	V.34 TX RETRY	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
34	SYMBOL RATE	2400/3000/3200/3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	3429	
35	LEASED LINE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
36	CED SEND	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
37	TOP FEED	-10mm ~ +9mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
38	BOTTOM FEED	-2mm ~ +10mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
39	A/R FULL PRINT	ON/OFF	ON	ON	OFF	ON	OFF	ON	ON	ON	ON	ON	OFF	OFF	OFF	
40	COMMAND TIME OUT	30 SEC/5 MIN	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	
41	G3/G4 LEARNING	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	
42	LLC CHECK	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	30 SEC	30 SEC	30 SEC	30 SEC	
43	G3 SETUP BC	3.1K/SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	
44	G3 FALLBACK CAUSE	select from all 50 kinds of service codes	It doesn't have default data with each default type. Only one kind has data as a device.													

E-XXX=OEL-XXX, O-XXX=OKI-XXX, L-XXX=LANIER-XXX

Note: As for the setting of the part of mesh, Default-data does'nt exist in the Default-file. This setting has the data which are characteristic of the device.

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Table 1.10 (2/2) Technical Default Setting

No.	Technical Setting Items	Setting Selection	14 NOR	15 SUI	16 AUT	17 HOL	18 ITA	19 ESP	20 CHN	(21) Factory	Note
1	SERVICE BIT	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	
2	MONITOR CONT.	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	
3	COUNTRY CODE	USA INT'L GBR IRL NOR SWE FIN DEN GER HUN TCH POL SUI AUT BEL HOL FRE POR ESP ITA GRE AUS NZL SIN HNG LTA CHN MEX RUS	NOR	SUI	AUT	HOL	ITA	ESP	CHN	INT'L	
4	TIME/DATE PRINT	0: OFF/ 1: ONCE/2: ALL	OFF	ALL	ALL	ONCE	ALL	ONCE	OFF	ONCE	
5	TSI PRINT	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
6	TAD MODE	0: OFF/ 1: TYPE1/2: TYPE2/3: TYPE3	OFF	TYP1	TYP1	TYP1	OFF	TYP2	TYP2	OFF	
7	REAL TIME DIAL	0: OFF/ 1: TYPE1/2: TYPE2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	TYP2	
8	TEL/FAX SW	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
9	MDY/DMY	0: MDY/ 1: DMY	DMY	DMY	DMY	DMY	DMY	DMY	MDY	MDY	
10	LONG DOC. SCAN	ON/OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	
11	TONE FOR ECHO	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
12	MH ONLY	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
13	H/MODEM RATE	33.6K/28.8K/14.4K/9.6K/4.8K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	33.6K	
14	T1(TX) TIMER VALUE	010 - 255 sec	60	60	60	60	40	45	45	60	
15	T1(RX) TIMER VALUE	010 - 255 sec	35	35	35	35	35	35	35	35	
16	T2 TIMER VALUE	001 - 255 (100ms - 25.5 sec)	130	60	60	130	130	51	130	130	Base Timer=100ms
17	DIS BIT 32	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
18	ERR. CRITERION	0 - 99	10	10	10	10	10	10	10	10	
19	OFF HOOK BYPASS	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
20	NL EQULIZER	0 DB/4 DB/8 DB/12 DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	0DB	
21	ATTENUATOR	0 - 15dB	10dB	10dB	10dB	10dB	10dB	10dB	10dB	10dB	FRE = 7 - 15DB
22	T/F TONE ATT	0 - 15dB	9dB	7dB	7dB	10dB	12dB	10dB	8dB	10dB	
23	MF. ATT	0 - 15dB	5dB	5dB	5dB	5dB	5dB	5dB	4dB	7dB	
24	RING DURA. *10MS	10 - 99 (*10 ms)	14	14	11	14	14	14	12	12	
25	CML TIMING *100MS	1 - 19 (*100 ms)	3	3	3	11	3	3	3	3	
26	HEAD STROBE	00000 - 11111	10100	10100	10100	10100	10100	10100	10100	10100	
27	MEDIA TYPE	M/MH/H	M	M	M	M	M	M	M	M	
28	TR LATCH CURRENT	-2/-1/0/+1/+2	0	0	0	0	0	0	0	0	
29	NSF SWITCH	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
30	ID/TSI PRIORITY	ID/TSI	ID	TSI	TSI	ID	ID	ID	ID	ID	
31	TONER COUNT CLEAR	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
32	PARALLEL PICK UP	ON/OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	ON	
33	V.34 TX RETRY	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
34	SYMBOL RATE	2400/2800/3200/3429	3429	3429	3429	3429	3429	3429	3429	3429	
35	LEASED LINE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
36	CED SEND	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
37	TOP FEED	-10mm ~ +9mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
38	BOTTOM FEED	-2mm ~ +10mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	0mm	
39	A/R FULL PRINT	ON/OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON	
40	COMMAND TIME OUT	30 SEC/5 MIN	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	30 SEC	
41	G3/G4 LEARNING	ON/OFF	ON	ON	ON	ON	ON	ON	ON	ON	
42	LLC CHECK	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
43	G3 SETUP BC	3.1K/SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	SPEC	
44	G3 FALLBACK CAUSE	select from all 50 kinds of service codes	It doesn't have default data with each default type. Only one kind has data as a device.								

E-XXX=OEL-XXX, O-XXX=OKI-XXX, L-XXX=LANIER-XXX

Note: As for the setting of the part of mesh, Default-data does'nt exist in the Default-file. This setting has the data which are characteristic of the device.

Oki Data CONFIDENTIAL

No.	User Setting Items	Setting Selection	COUNTRY CODE																											
			1 USA	2 INT'L	3 GBR	4 IRL	5 NOR	6 SWE	7 FIN	8 DEN	9 GER	10 HUN	11 TCH	12 POL	13 SUI	14 AUT	15 BEL	16 HOL	17 FRE	18 POR	19 ESP	20 ITA	21 GRE	22 AUS	23 NZL	24 SIN	25 HNG	26 LTA	27 MEX	28 CHN	29 RUS	30 TWN
1	REDIAL TRIES	0 - 10 TRIES	1	3	2	2	5	10	3	5	10	10	2	2	10	10	3	2	2	2	2	2	2	3	2	5	2	3	3	3	3	2
2	REDIAL INTERVAL	1 - 6 min	3	3	3	3	2	3	3	3	1	1	3	3	1	1	3	3	6	3	3	3	3	3	3	3	3	3	3	3	3	3
3	DIAL TONE DETECT	ON/OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	ON	OFF
4	BUSY TONE DETECT	ON/OFF	ON	ON	ON	OFF	ON	ON	ON	ON	ON	OFF	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
5	MF (TONE)/DP (PULSE)	DP/MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	DP	MF	DP	MF	MF	MF	MF	MF	DP	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
6	PULSE DIAL RATE	10 PPS/16 PPS/ 20 PPS	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
7	PULSE MAKE RATIO	33%/39%/40%	39%	33%	33%	33%	33%	39%	39%	39%	40%	33%	39%	33%	40%	40%	33%	39%	33%	33%	33%	39%	39%	33%	33%	33%	33%	39%	39%	33%	33%	33%
8	PULSE DIAL TYPE	N/10-N/N+1	N	N	N	N	N	N+1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
9	MF (TONE) DURATION	75 ms/85 ms/100 ms	100	85	85	85	75	85	85	100	85	100	100	100	85	85	85	100	75	85	85	85	100	85	85	85	85	100	100	85	85	100
10	PBX LINE	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
11	FLASH/NORMAL	NORMAL/FLASH	N	N	N	N	N	N	N	N	FLASH	N	N	N	FLASH	FLASH	N	N	FLASH	N	N	N	N	N	N	N	N	N	N	N	N	N
12	AUTO START	ON/OFF	ON	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	OFF	OFF	ON	ON	OFF	OFF	OFF	ON	ON	ON	OFF	ON	ON	ON	ON	ON	ON	ON	OFF	ON
13	DIAL PREFIX	OFF/(max. 4 digits)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	0...	OFF	OFF	OFF	0...	0...	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

Table 1.11 Default Setting of Dial Parameters

Model. Description ID for Plug & Play

No.	Close Setting Items	Setting Selection	1 ODA	2 ATT	3 E-INT	4 E-GER	5 E-FRE	6 0-AUS	7 0-NZL	8 0-SIN	9 0-HNG	10 L-AG	11 IRL	Note
1	Plug & Play ID Default	00/01/02/03/04	00	00	01	08	01	04	04	04	04	02	01	
			12 DEN	13 SWE	14 NOR	15 SUI	16 AUT	17 HOL	18 ITA	19 ESP	20 CHN	(21) Factory		
			01	01	01	08	08	01	01	01	01	00		

00 - ODA, 01 - OEL, 02 - Lanier, 03 - Telenolma, 04 - OKI, 05 - Olympus, 08 - Generic

Table 1.12 Plug & Play ID

No.	User Setting Item	XPARA[ ]	1 USA	2 INT	3 GBR	4 IRL	5 NOR	6 SWE	7 FIN	8 DEN	9 GER	10 HUN	11 TCH	12 POL	13 SUI	14 AUT	15 BEL	16 HOL	17 FRE	18 POR	19 ESP	20 ITA	21 GRE	22 AUS	23 NZL	24 SIN	25 HNG	26 LTA	27 MEX	28 CHN	29 RUS	30 TWN
1	MCF (single-loc.)	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	MCF (multi-loc.)		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	ERR. REPORT (MCF.)		1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	IMAGE IN MCF.		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	SENDER ID		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	MONITOR VOLUME		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	BUZZER VOLUME		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	CLOSED NETWORK		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	TX MODE DEFAULT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	T/F TIMER PRG.		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	RING RESPONSE		1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1	1	1	0	0	0	0	1	1	1	1	1
12	DISTINCTIVE RING		1	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	0	0	0	1	1	1	1	1	1	0	0	1
13	1'ST PAPER SIZE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	USER LANGUAGE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	INCOMING RING		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	REMOTE RECEIVE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	MEM./FEED SWITCH	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	POWER SAVE MODE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0
19	ECM FUNCTION		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	REMOTE DIAGNOSIS		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
21	PC/FAX SWITCH		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	NOT TONER MEM. RX		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
23	MEM. FULL SAVE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
24	CONTINIOUS TONE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25	INSTANT DIAL	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
26	RESTRICT ACCESS		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
27	WIDTH REDUCTION		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
28	TONER SAVE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
29	CNG COUNT		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30	600DPI FAX TX		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31	ISDN DIAL MODE		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	SPEECH RECEIVE		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
33	OPTION I/F MODE	4	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34	PAPER SIZE CHECK		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35	PRINT JOB T.O.		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
36	FLATBED TX MODE		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
37	FLATBED TX T.O.		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
38	HALF SIZE SCAN		0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
39	AUTO TRAY SW.		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	XPARA [0]		ff	ff	ff	ff	ff	ff	ff	ff	df	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff
	XPARA [1]		ff	ef	ef	ef	ef	ef	ef	ff	ff	ef	ef	ef	df	df	cf	ef	cf	ff	ef	ef	ef	df	df	df	df	ff	ff	ef	ef	ff
	XPARA [2]		ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	bf	bf	ff	ff	bf
	XPARA [3]		fc	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff
	XPARA [4]		2	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff

Table 1.13 (1/2) XPARA Bit

Table 1.13 (2/2) XPARA Bit

No.	User Setting Item		1 USA	2 INT	3 GBR	4 IRL	5 NOR	6 SWE	7 FIN	8 DEN	9 GER	10 HUN	11 TCH	12 POL	13 SUI	14 AUT	15 BEL	16 HOL	17 FRE	18 POR	19 ESP	20 ITA	21 GRE	22 AUS	23 NZL	24 SIN	25 HNG	26 LTA	27 MEX	28 CHN	29 RUS	30 TWN
	AUTO DIAL SETTINGS																															
1	REDIAL TRIES	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	0	1	0	0	0	1	0	0	0	0	0	1	1	1	1	1
2	REDIAL INTERVAL		1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0	1	0	0	0	0	0	1	1	1	1	0
3	DIAL TONE DETECT		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1
4	BUSY TONE DETECT		1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1
5	MF(TONE)/DP(PULSE)		1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1
6	PULSE DIAL RATE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	PULSE MAKE RATIO		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	PULSE DIAL TYPE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	MF(TONE) DURATION	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	PBX LINE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	1	1	1	1	1
11	FLASH/NORMAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	AUTO START		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	DIAL PREFIX		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	XAPRAD [0]		f8	c8	00	c0	c0	c0	c8	08	d8	c8	c8	c8	d8	d8	48	c0	18	08	08	c8	08	08	00	08	08	f8	f8	f8	c8	b8
	XPARAD [1]		58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	18	18	18	18	18	58	58	58	58	58
	I-FAX NIC OPTIONS																															
1	I-FAX NIC SETTINGS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	POP INTERVAL		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	NETWORK SETTINGS		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	NETWORK INITIALIZE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	XPARAF [0]		f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0
	I-FAX NIC SETTINGS																															
1	TEXT PRINT	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	HEADER PRINT		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	CODING MODE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	EX.FINE MODE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	SENDER ID(EMAIL)		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	SEND FILE FORMAT		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	SEND NOTIFICATION		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	I-FAX NIC UPDATE		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	XPARAG [0]		ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff	ff
	SPECIAL SETTINGS																															
b7	CLOCK ADJUSTMENT	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
b6	TSI/CSI		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
b5	SENDER ID		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
b4	FORWARDING TEL No.		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
b3	not assign		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b2	not assign		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b1	for TBR21 (DT detect mask	*2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
b0	LANIER Special Settings	*1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	XPARAE [0]		f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0	f0

* "1": User setting are possible, "0": User setting are impossible.

*1: LANIER Special Settings ("0": User setting are possible, "1": User setting are impossible)
- CLOCK ADJUSTMENT
- TSI/CSI
- TIME/DATE PRINT
- TSI PRINT
- SYSTEM RESET (ALL DATA, CONFIG. DATA, LOCATION DATA)

*2: for TBR21 - DT detect mask - ("0": Normal operation "1": Both User and Serviceman should make operation impossible) It must be '1' at the time of the TBR21 approval, but must it be '0' at the time of mass production.

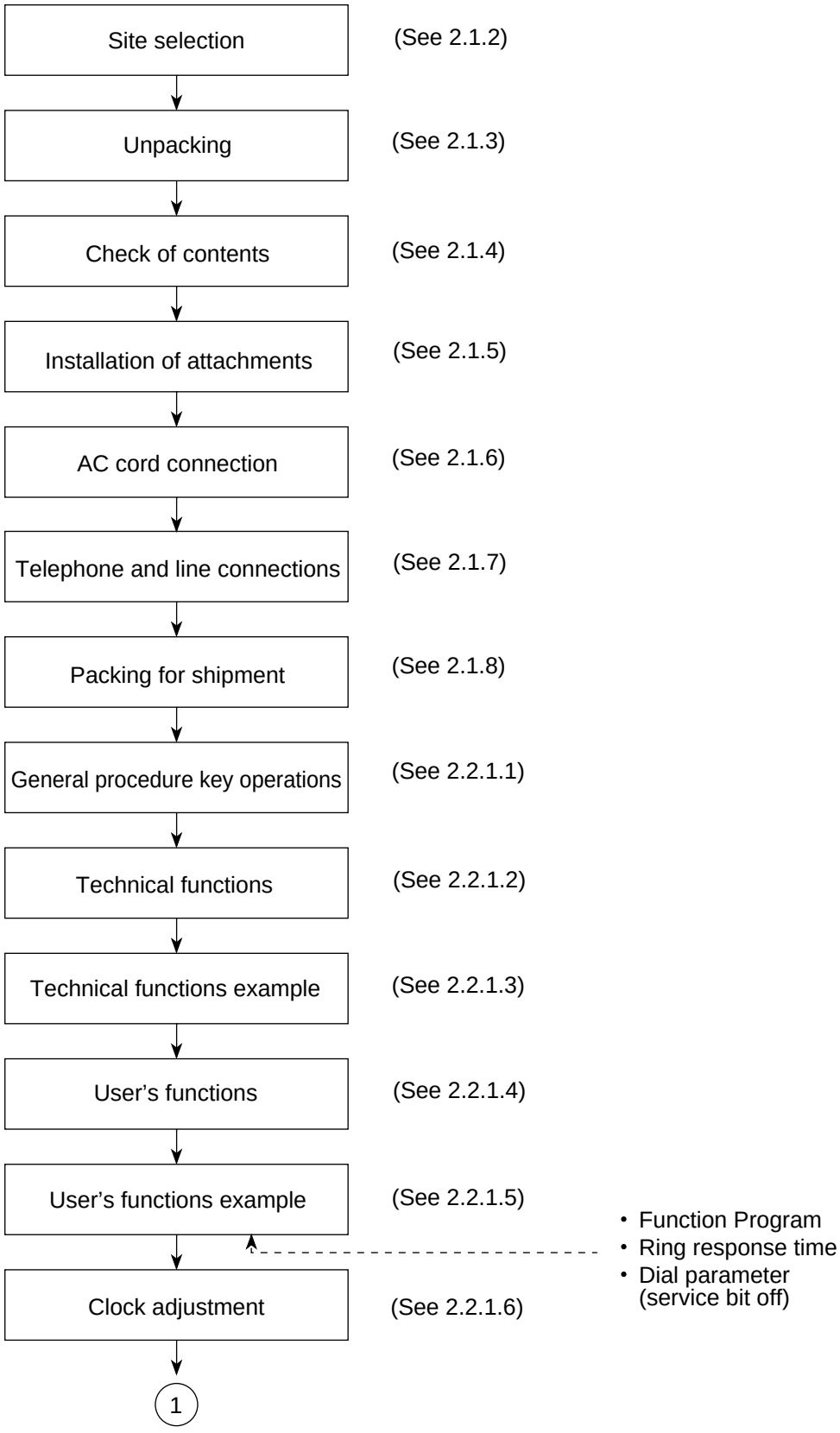
Oki Data CONFIDENTIAL

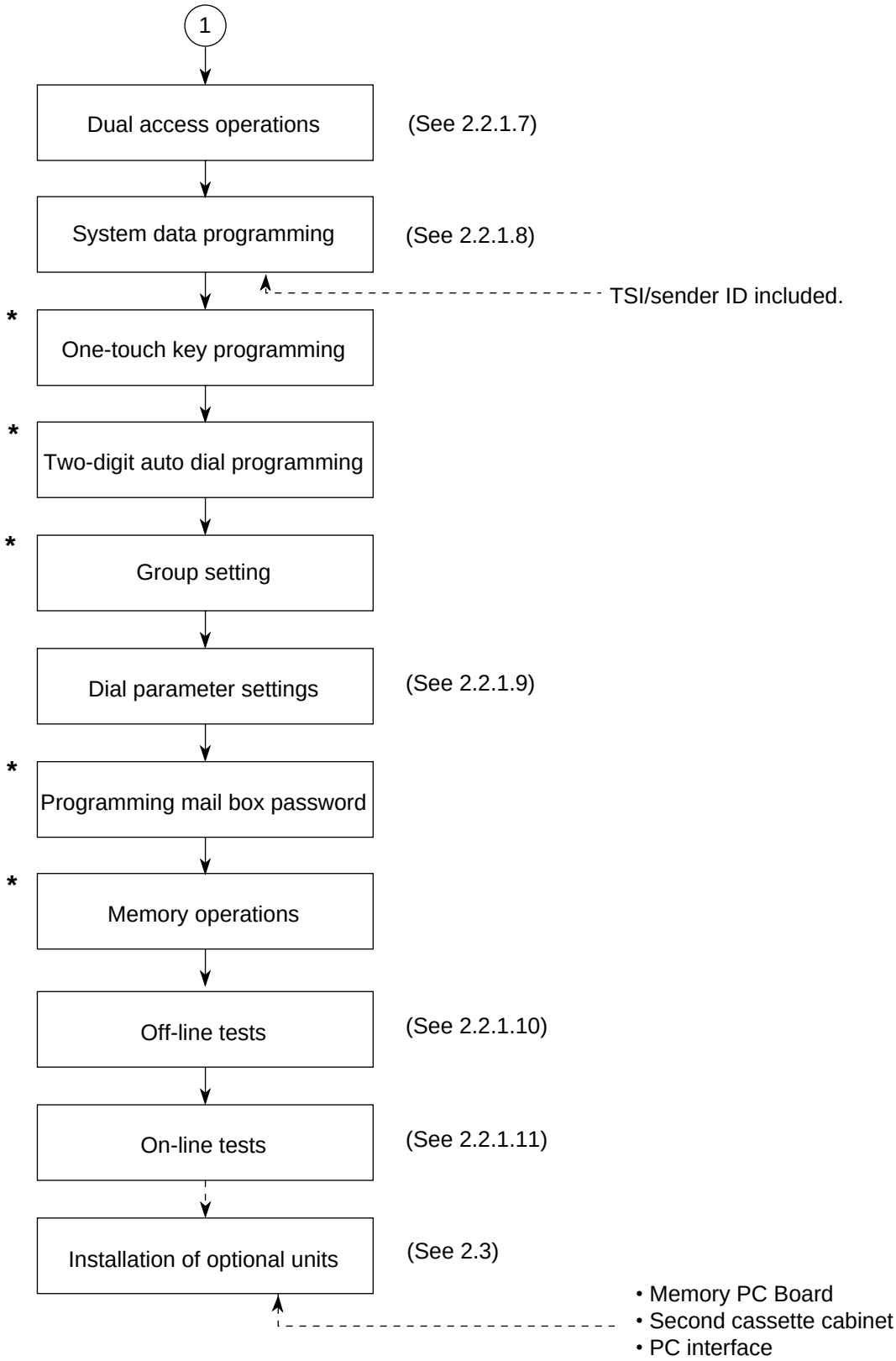
2. INSTALLATION PROCEDURE

2.1 Setup Information

2.1.1 General

The following flowchart outlines the installation procedure.





* : See user's guide

2.1.2 Site Selection

INSTALLATION

Precautions for Installation

(1) Fluctuation in line voltage
- 120VAC (102V to 127V)
- 230VAC (198V to 264V)

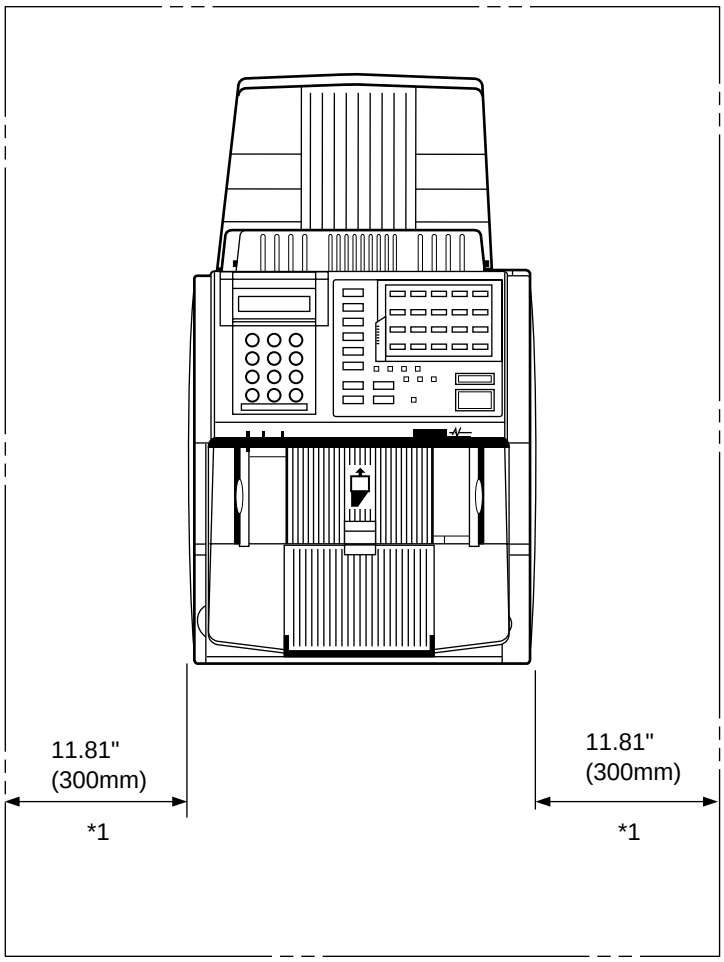
(2) Room temperature
50 to 90°F (10 to 32°C)

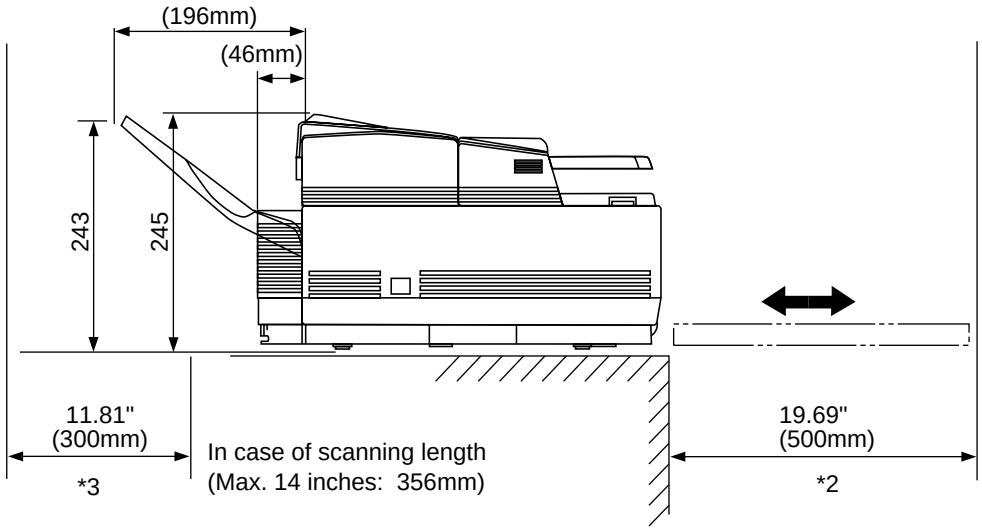
(3) Humidity
20 to 80% RH

(4) Operating environment
Pressure: Equivalent to altitude of 2500 m (8020 feet) and below.

(5) Exposure
Within five minutes at luminous intensity 2,000 lux (with the stacker cover opened).

(6) Required space for installation
The facsimile requires the space as shown below for safety and good operability.





Note 1: This space is necessary for handling the handset. (option) (page 2-3)
2: This space is necessary for removing the recording paper cassette.
3: This space is necessary for installing the document stacker and to allow space for the fan exhaust.

(7) Levelness of installation surface
1 degree max.

(8) Other requirements
Avoid installing in any of the following places:
- A place exposed to direct sunlight
- A place near a heat source or exposed to vibration
- A dusty place
- A place in the atmosphere of acid gas, or steam etc.,
- A place exposed to quick temperature changes

2.1.3 Unpacking

2.1.3.1 Unpacking

Procedure

(1) Remove tape on the top of the carton box and open its cover.

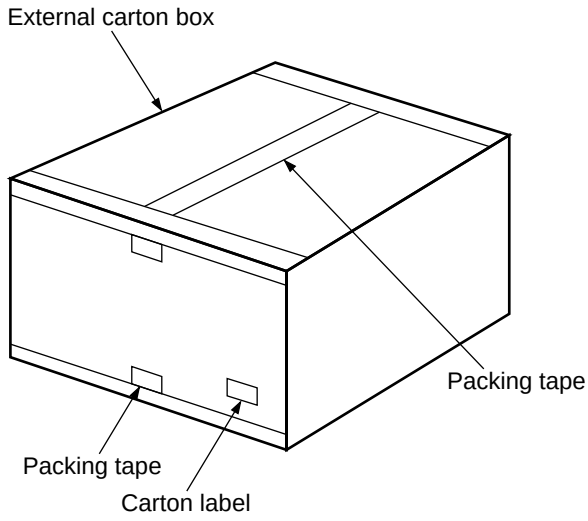
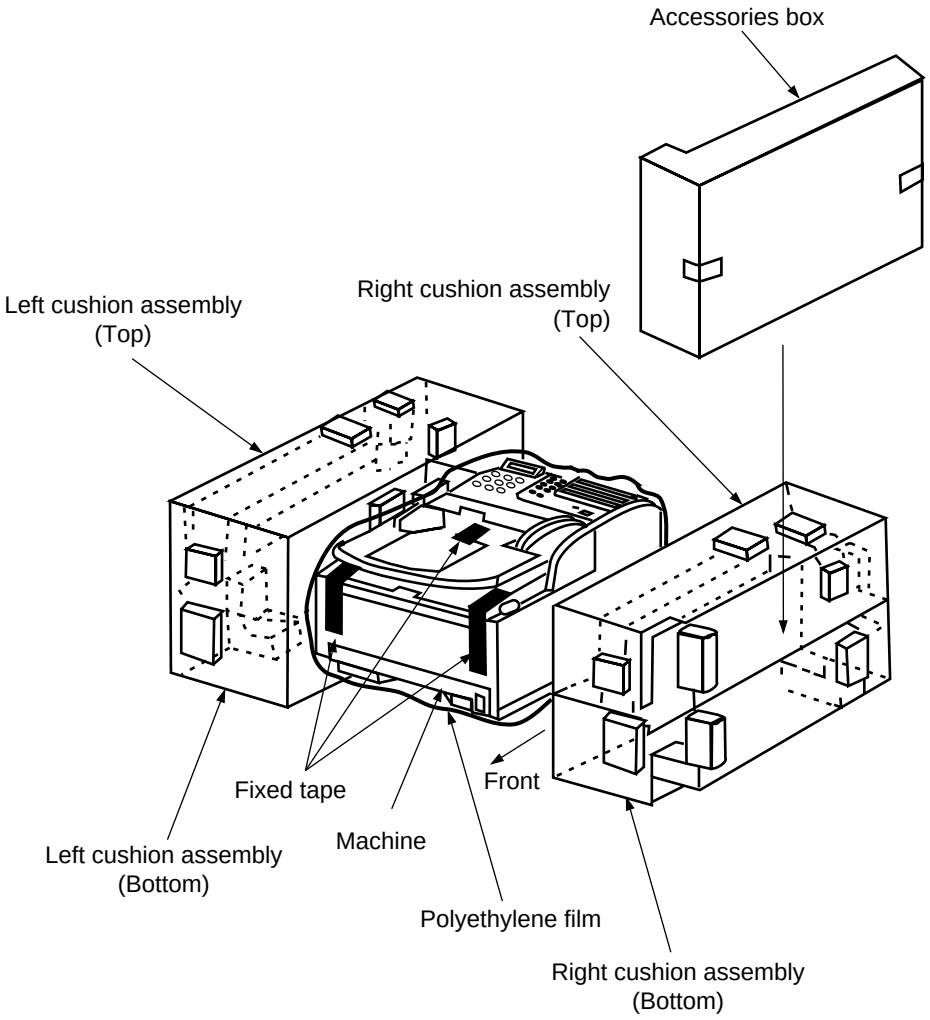


Figure 2.1 (1/3) Unpacking Procedure

(2) Take out the accessory box from the carton box.
(See Figure 2.1)

(3) Take out the machine with plastic wrapper from the box.



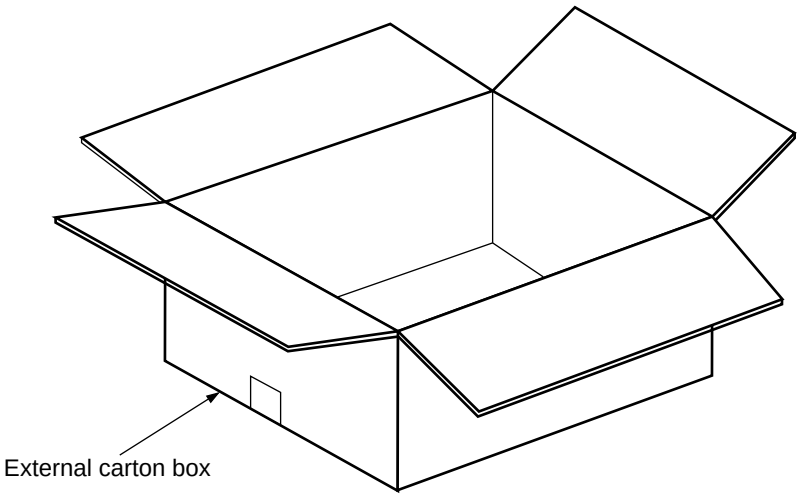


Figure 2.1 (2/3) Unpacking Procedure

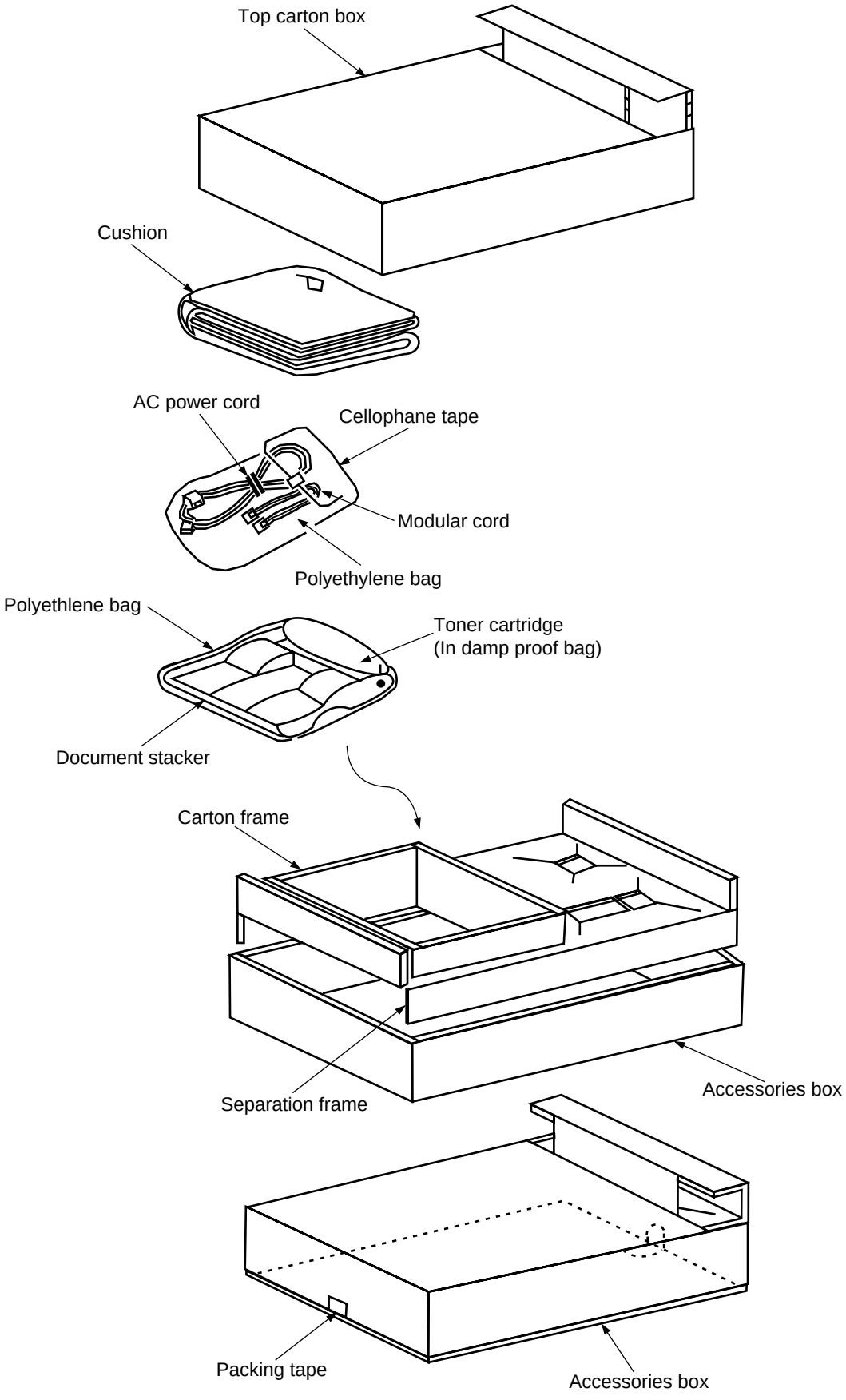


Figure 2.1 (3/3) Unpacking Procedure

2.1.4 Identification Contents

After having taken out the machine and accompanied accessories from the carton box, check the contents according to the following list:

Table 2.1 Contents List

Item No.	Name	Q'ty	Remarks
1	FX-060VP facsimile	1	
2	AC power cord	1	
3	I/D unit	1	Already installed.
4	Toner cartridge	1	
5	Document stacker	1	
6	Line cord	1	
7	One touch sheet	1	Already installed.
8	User's guide	1 vol.	

2.1.5 Installation of Attachments

2.1.5.1 Installation of Attachments

(1) Items
- Image Drum (ID) Unit (already installed)
- Toner cartridge
- Recording paper
- Document stacker

(2) Procedure

1) Toner cartridge
- Peel off the fixed tape attached to the copy stacker.
- Open the document table and copy stacker.

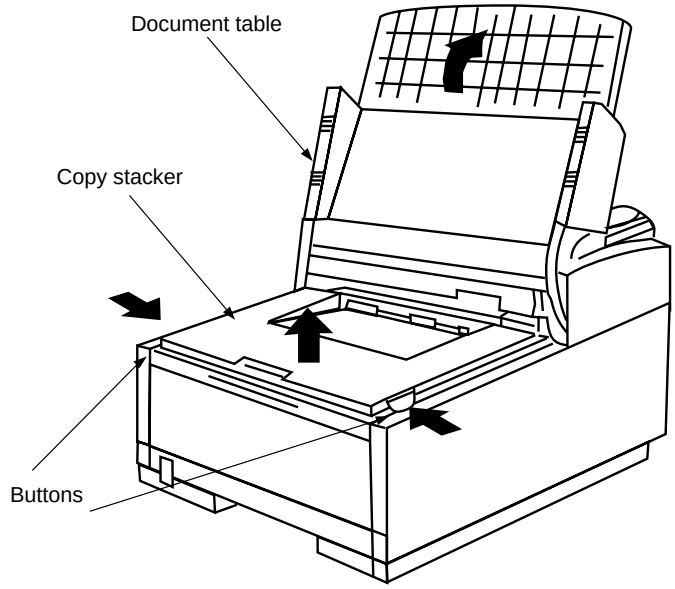


Figure 2.2 (1/5) Toner Cartridge Installation

- Take the cushion out of the ID unit.

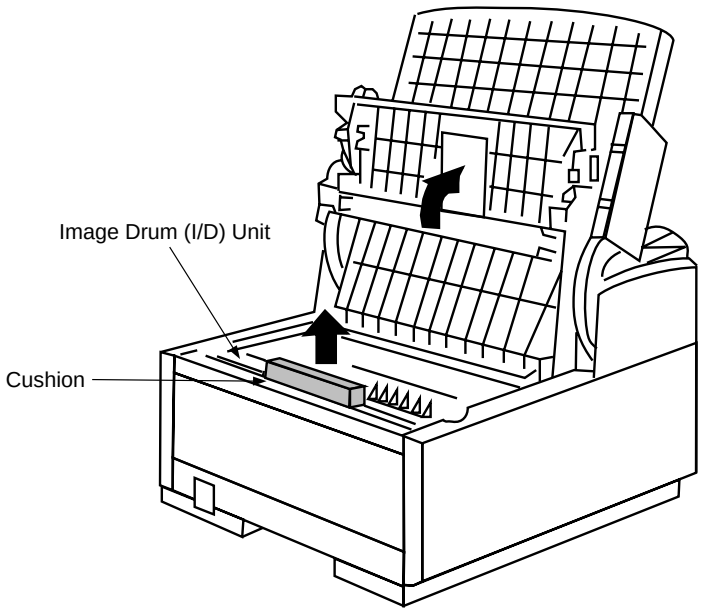


Figure 2.2 (2/5) Toner Cartridge Installation

- Take out the toner cartridge from the damp proof bag, shake it five or six times as shown in the illustration to eliminate the toner deflection, and peel off the seal gently.

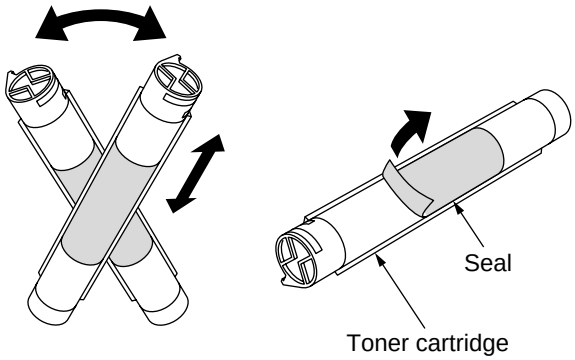


Figure 2.2 (3/5) Toner Cartridge Installation

- Ensure that the plastic tab on the right-hand side of the toner cartridge recess lines up with the groove on the toner cartridge.
- Press down on both ends to make sure the cartridge is fully seated.

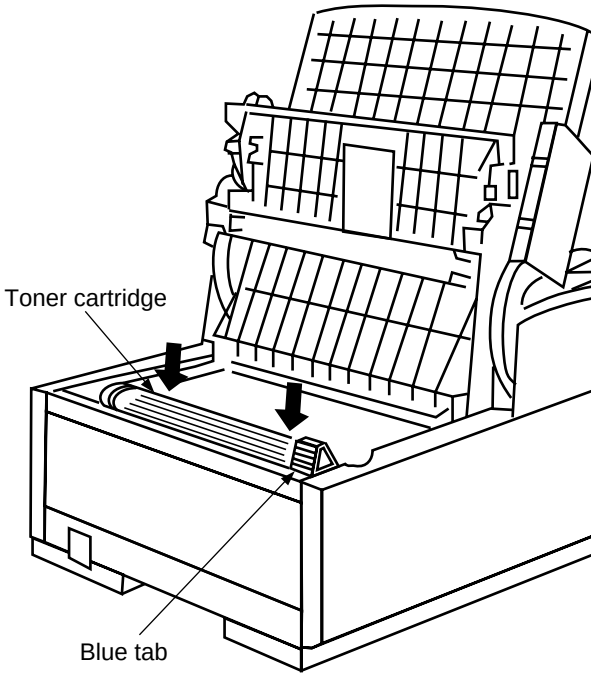


Figure 2.2 (4/5) Toner Cartridge Installation

• Push the blue tab forward until it stops.

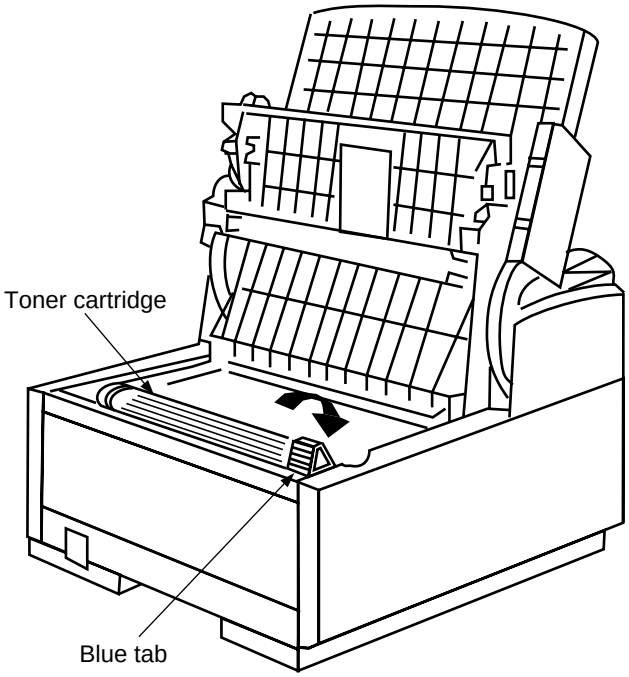


Figure 2.2 (5/5) Toner Cartridge Installation

• Clean the toner scattered in the vicinity of the toner cartridge using a cloth moistened with cold water. Do not use hot water since it makes the toner stick there.
• Close the copy stacker until the buttons have been locked completely.

(3) Recording paper

Note: About 250 sheets of the new paper can be set in the recording paper cassette.

• Remove the paper cassette from the facsimile by pulling the cassette tab.

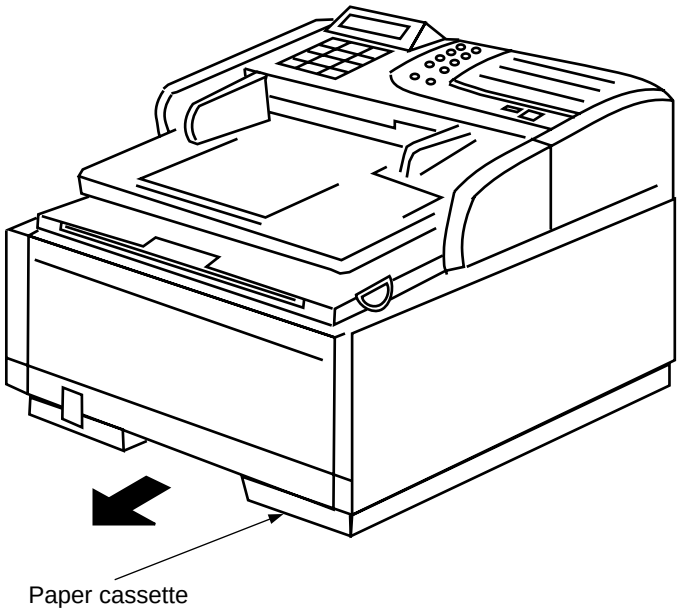


Figure 2.3 (1/2) Recording Paper Cassette Installation

• Sheets must not exceed the paper full marker of the new paper limit indication. If excessive sheets are set, it will cause paper jams.
• After loading the new paper, push it forward into the slot at the front of the facsimile until it locks.

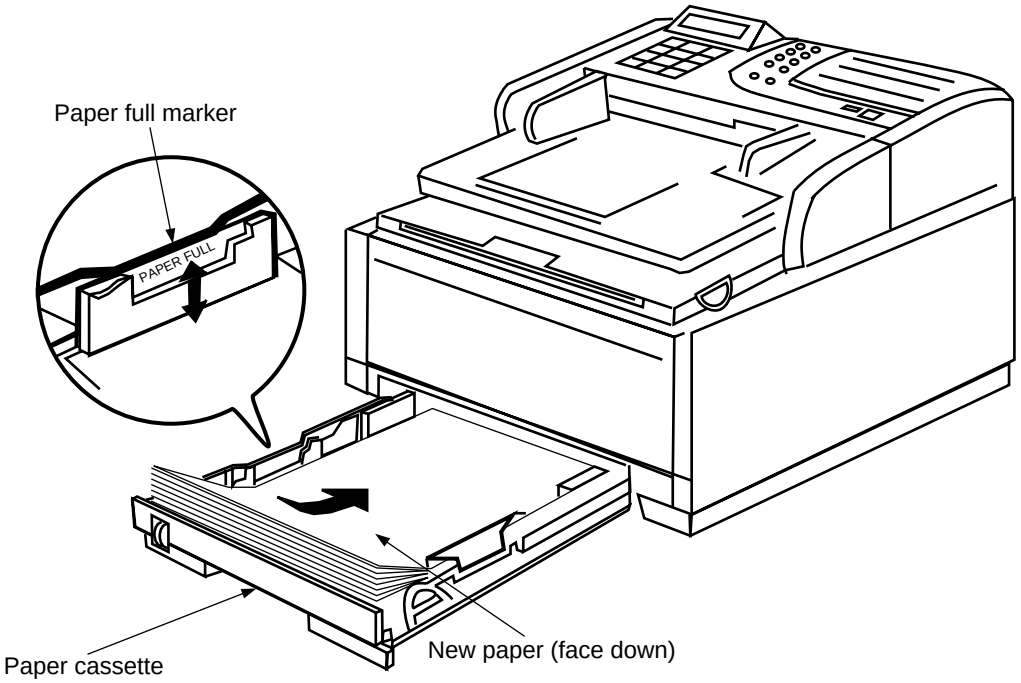


Figure 2.3 (2/2) Recording Paper Cassette Installation

(4) Document stacker

• Hang the document stacker onto hanging position.

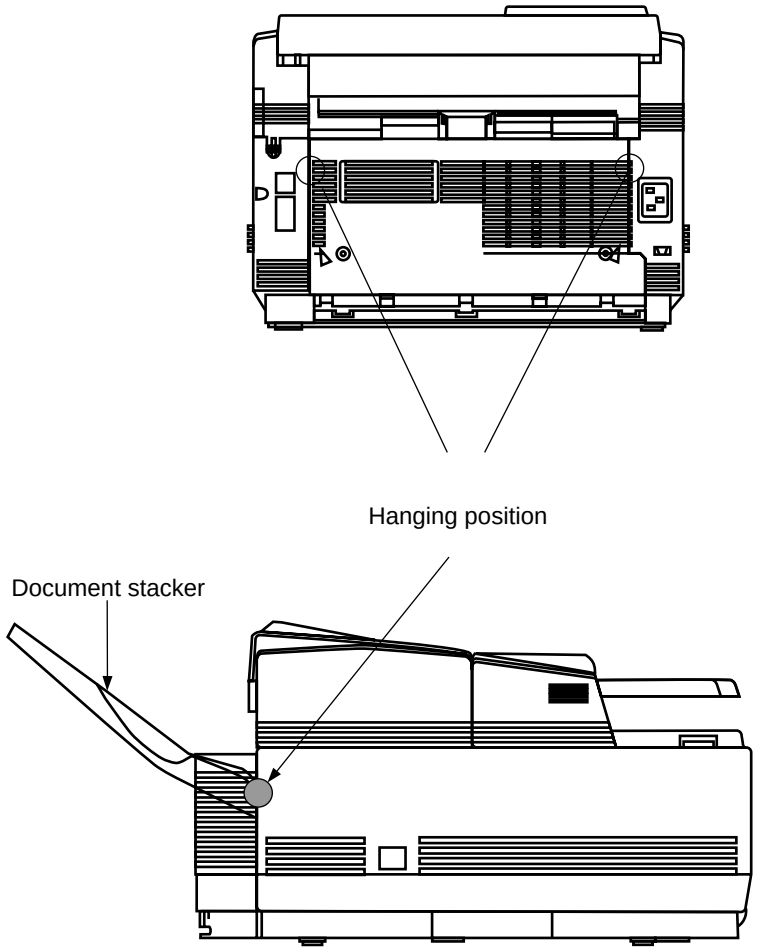


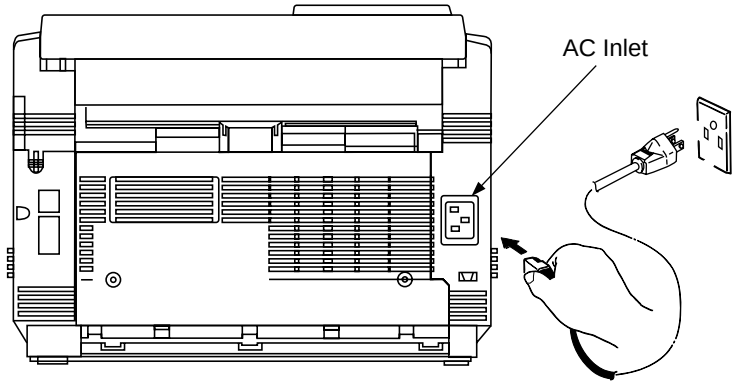
Figure 2.4 Document Stacker Installation

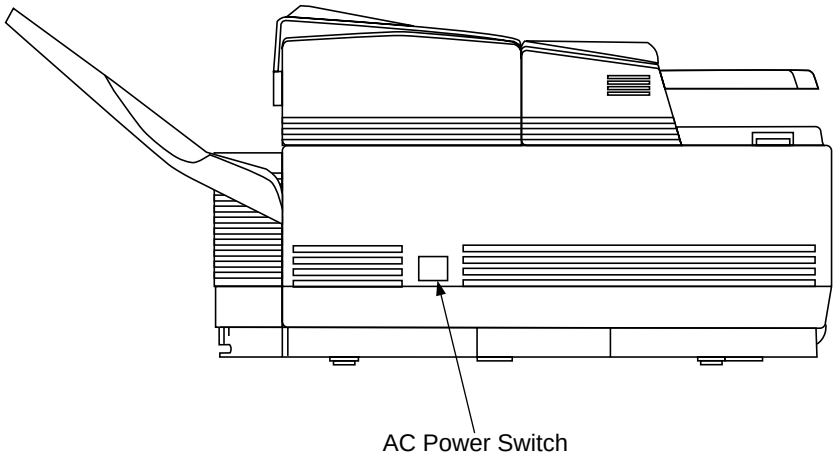
2.1.6 AC Cord Connection

The power supply is provided as follows.

Nominal input voltage 120VAC (Voltage range 102 to 127VAC)
Nominal input voltage 230VAC (Voltage range 198 to 250VAC)

Check whether the AC voltage of your input is within the above-mentioned voltage range and if so, check that the power switch is turned OFF. After turning off the power switch, connect the female plug of the AC cord to the machine and insert the male plug of the AC cord to the inlet receptacle.
Turn the power switch ON and check that the display shows “(Time)” message indicating the standby mode.





2.1.7 Telephone and Line Connections

(1) Procedure

• Connect the lines.

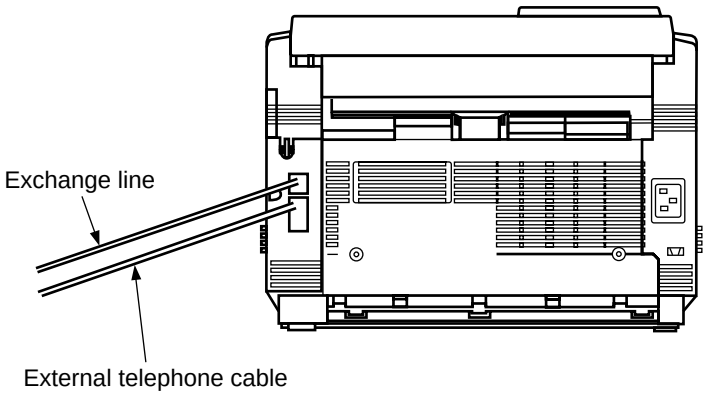


Figure 2.5 Telephone and Line Connections

2.1.8 Packing for Shipment

CAUTION: When packing the FX-060VP for shipment, REMOVE THE IMAGE DRUM AND TONER FROM THE UNIT AND SHIP SEPARATELY!
Failure to do this will result in damage to the machine."

2.2 Programming and Initial Settings

2.2.1 Initial Settings

2.2.1.1 General Procedure of Key Operation

Figure 2.6 shows the general procedure of key operation.

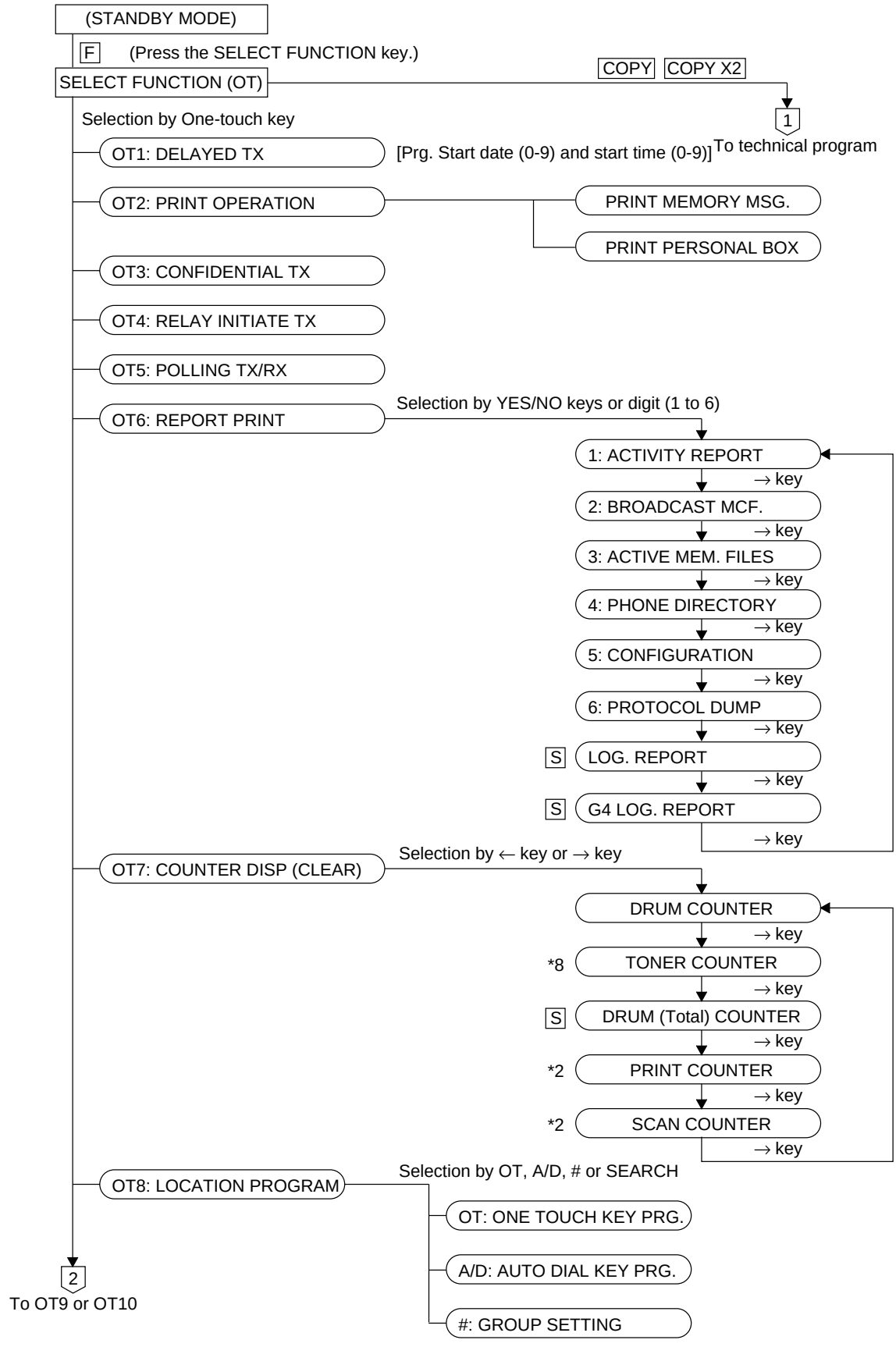


Figure 2.6 (1/3)

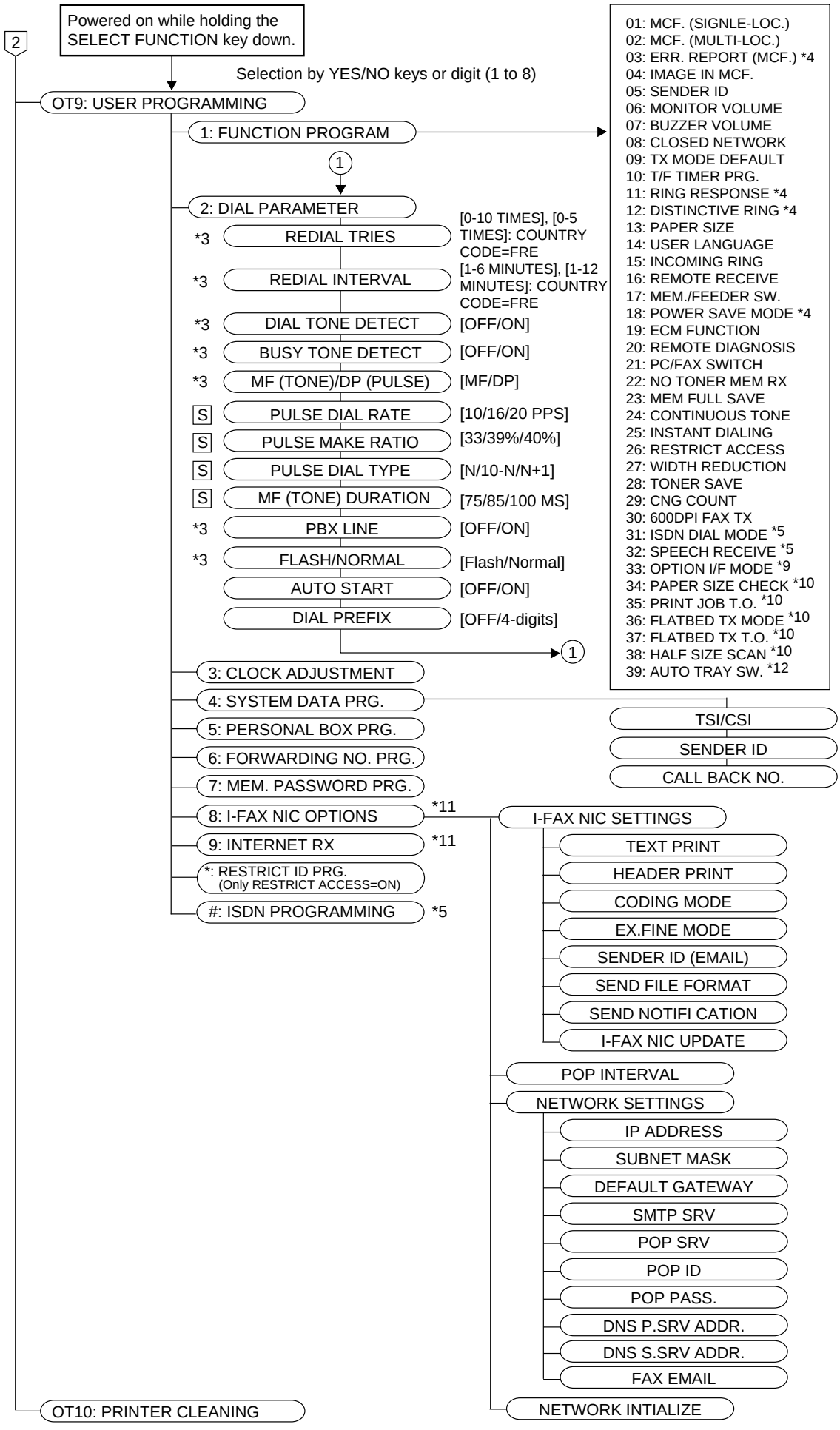

2
Powered on while holding the SELECT FUNCTION key down.
Selection by YES/NO keys or digit (1 to 8)
OT9: USER PROGRAMMING
1: FUNCTION PROGRAM
1
2: DIAL PARAMETER
*3 REDIAL TRIES
[0-10 TIMES], [0-5 TIMES]: COUNTRY CODE=FRE
*3 REDIAL INTERVAL
[1-6 MINUTES], [1-12 MINUTES]: COUNTRY CODE=FRE
*3 DIAL TONE DETECT [OFF/ON]
*3 BUSY TONE DETECT [OFF/ON]
*3 MF (TONE)/DP (PULSE) [MF/DP]
S PULSE DIAL RATE [10/16/20 PPS]
S PULSE MAKE RATIO [33/39%/40%]
S PULSE DIAL TYPE [N/10-N/N+1]
S MF (TONE) DURATION [75/85/100 MS]
*3 PBX LINE [OFF/ON]
*3 FLASH/NORMAL [Flash/Normal]
AUTO START [OFF/ON]
DIAL PREFIX [OFF/4-digits]
1
01: MCF. (SIGNLE-LOC.)
02: MCF. (MULTI-LOC.)
03: ERR. REPORT (MCF.) *4
04: IMAGE IN MCF.
05: SENDER ID
06: MONITOR VOLUME
07: BUZZER VOLUME
08: CLOSED NETWORK
09: TX MODE DEFAULT
10: T/F TIMER PRG.
11: RING RESPONSE *4
12: DISTINCTIVE RING *4
13: PAPER SIZE
14: USER LANGUAGE
15: INCOMING RING
16: REMOTE RECEIVE
17: MEM./FEEDER SW.
18: POWER SAVE MODE *4
19: ECM FUNCTION
20: REMOTE DIAGNOSIS
21: PC/FAX SWITCH
22: NO TONER MEM RX
23: MEM FULL SAVE
24: CONTINUOUS TONE
25: INSTANT DIALING
26: RESTRICT ACCESS
27: WIDTH REDUCTION
28: TONER SAVE
29: CNG COUNT
30: 600DPI FAX TX
31: ISDN DIAL MODE *5
32: SPEECH RECEIVE *5
33: OPTION I/F MODE *9
34: PAPER SIZE CHECK *10
35: PRINT JOB T.O. *10
36: FLATBED TX MODE *10
37: FLATBED TX T.O. *10
38: HALF SIZE SCAN *10
39: AUTO TRAY SW. *12
3: CLOCK ADJUSTMENT
4: SYSTEM DATA PRG.
TSI/CSI
SENDER ID
CALL BACK NO.
5: PERSONAL BOX PRG.
6: FORWARDING NO. PRG.
7: MEM. PASSWORD PRG.
8: I-FAX NIC OPTIONS *11
I-FAX NIC SETTINGS
TEXT PRINT
HEADER PRINT
CODING MODE
EX.FINE MODE
SENDER ID (EMAIL)
SEND FILE FORMAT
SEND NOTIFI CATION
I-FAX NIC UPDATE
9: INTERNET RX *11
*: RESTRICT ID PRG. (Only RESTRICT ACCESS=ON)
#: ISDN PROGRAMMING *5
POP INTERVAL
NETWORK SETTINGS
IP ADDRESS
SUBNET MASK
DEFAULT GATEWAY
SMTP SRV
POP SRV
POP ID
POP PASS.
DNS P.SRV ADDR.
DNS S.SRV ADDR.
FAX EMAIL
NETWORK INTIALIZE
OT10: PRINTER CLEANING

Figure 2.6 (2/3)

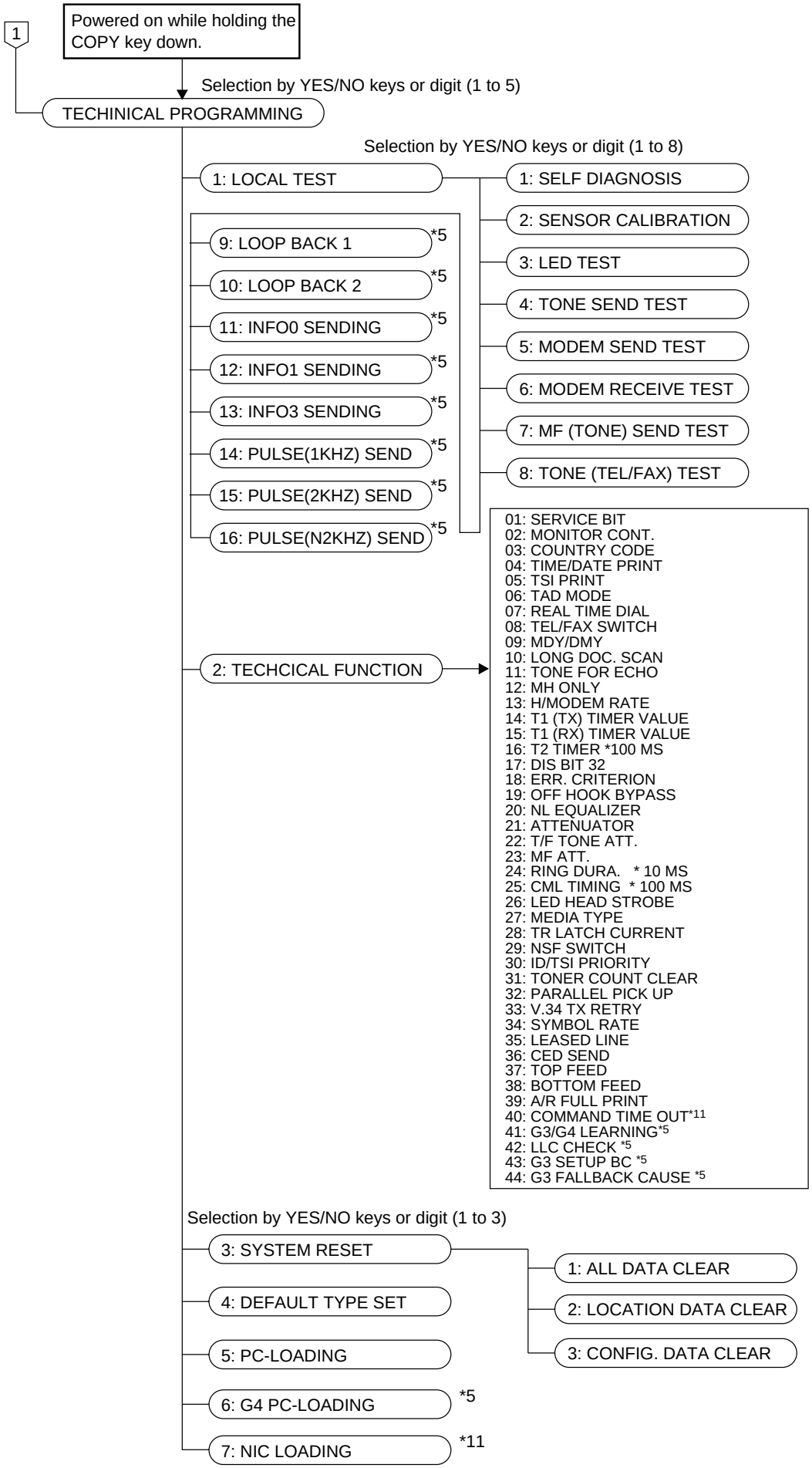

1
Powered on while holding the COPY key down.
Selection by YES/NO keys or digit (1 to 5)
TECHINICAL PROGRAMMING
Selection by YES/NO keys or digit (1 to 8)
1: LOCAL TEST
1: SELF DIAGNOSIS
2: SENSOR CALIBRATION
3: LED TEST
4: TONE SEND TEST
5: MODEM SEND TEST
6: MODEM RECEIVE TEST
7: MF (TONE) SEND TEST
8: TONE (TEL/FAX) TEST
9: LOOP BACK 1 *5
10: LOOP BACK 2 *5
11: INFO0 SENDING *5
12: INFO1 SENDING *5
13: INFO3 SENDING *5
14: PULSE(1KHZ) SEND *5
15: PULSE(2KHZ) SEND *5
16: PULSE(N2KHZ) SEND *5
2: TECHCICAL FUNCTION
01: SERVICE BIT
02: MONITOR CONT.
03: COUNTRY CODE
04: TIME/DATE PRINT
05: TSI PRINT
06: TAD MODE
07: REAL TIME DIAL
08: TEL/FAX SWITCH
09: MDY/DMY
10: LONG DOC. SCAN
11: TONE FOR ECHO
12: MH ONLY
13: H/MODEM RATE
14: T1 (TX) TIMER VALUE
15: T1 (RX) TIMER VALUE
16: T2 TIMER *100 MS
17: DIS BIT 32
18: ERR. CRITERION
19: OFF HOOK BYPASS
20: NL EQUALIZER
21: ATTENUATOR
22: T/F TONE ATT.
23: MF ATT.
24: RING DURA. * 10 MS
25: CML TIMING * 100 MS
26: LED HEAD STROBE
27: MEDIA TYPE
28: TR LATCH CURRENT
29: NSF SWITCH
30: ID/TSI PRIORITY
31: TONER COUNT CLEAR
32: PARALLEL PICK UP
33: V.34 TX RETRY
34: SYMBOL RATE
35: LEASED LINE
36: CED SEND
37: TOP FEED
38: BOTTOM FEED
39: A/R FULL PRINT
40: COMMAND TIME OUT*11
41: G3/G4 LEARNING*5
42: LLC CHECK *5
43: G3 SETUP BC *5
44: G3 FALLBACK CAUSE *5
Selection by YES/NO keys or digit (1 to 3)
3: SYSTEM RESET
1: ALL DATA CLEAR
2: LOCATION DATA CLEAR
3: CONFIG. DATA CLEAR
4: DEFAULT TYPE SET
5: PC-LOADING
6: G4 PC-LOADING *5
7: NIC LOADING *11

Figure 2.6 (3/3)

Note: When the machine is in POWER SAVE MODE, the machine returns to standby mode by pressing the START key.

*2: User can read no. of counter in LCD but can not clear.
*3: User can not select in some countries.
*4: When the service bit is set to OFF, ERR. REPORT (MCF.) of No. 03, RING RESPONSE of No. 11, DISTINCTIVE RING of No. 12 and POWER SAVE MODE of No. 18 are bypassed to the next function No. in some countries.
*5: Only when G4 opt. is installed.
*8: Displayed when TONER CONT CLEAR=ON or Service bit=ON.
*9: Displayed only when installed with a 1284 option.
*10: Displayed only when installed with a 1284 option when OPTION I/F MODE=SCN. or NET.
*11: Displayed only when installed with an I-FAX NIC option.
*12: Displayed only when installed with a 2nd TRAY
S: Effective if the service bit is set to ON.

2.2.1.2 Technical Functions

This section explains setting items generally conducted by service personnel, not by users.

Table 2.2 shows the initial setting items and their purposes. (The default setting is different by the individual countries.)
Each item can be accessed by entering the corresponding service number on Technical Function.

The detailed procedures of the initial setting items will be explained on the following pages.

Note 1: S-ON: Effective if the service bit has been set to ON.
FP: Function program setting
TF: Technical function setting

2: The fonts displayed on the LCD operation panel may differ from fonts written this manual.

Table 2.2 (1/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
01	Service bit	Switching serviceman/user operation. ON : Service personnel's features are available. OFF : Service personnel's features are not available. To enable or disable the following functions: • Drum (Total, Print, Scan), and toner counter clear • Dial parameters • etc
02	Line monitor control	Changing the audible monitoring range. FP +06 (To select the loudness of monitoring) ON : Enable OFF : Disable ***Note:*** In case of transmission mode, the monitor will be available during dialling, but the monitor will be switched off automatically after the elapse of specified time (about 5 sec.). However, when TF02 is set to ON, the monitor is available during communication also.
03	Country code	Selecting the following country code: USA, INT'L, GBR, IRL, NOR, SWE, FIN, DEN, GER, HUN, TCH, POL, SUI, AUT, BEL, HOL, FRE, POR, ESP, ITA, GRE, AUS, NZL, SIN, HNG, LTA, MEX, CHN, RUS, TWN
04	Time and date print	Enables or disables the function of printing local date and time at the top of the received page. OFF/ONCE/ALL selectable. OFF: Time and date are not printed ONCE: Time and date are printed at the top of the first page only. ALL: Time and date are printed at the top of every page. ***Note:*** Set at receiver.
05	TSI print	Switches the function of printing TSI data from remote fax onto the received pages. TSI is printed at the leading edge of first reproduced copy. (Set at receiver.) When TF04 is set to "ALL", TSI is printed for the all received pages. ON : Enable OFF : Disable (Reference) TSI; Transmitting Subscriber Identification

Table 2.2 (2/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
06	TAD mode (For external telephone answering device.)	Switches an automatic voice message response to the calling station. TAD mode is of three types (TYPE1/TYPE2/TYPE3). OFF/TYPE1/TYPE2/TYPE3 selectable. TYPE1 means: 1. RING comes. 2. The TAD answers, returns the recorded voice message in TAD to calling party. 3. The FAX machine will continue to detect CNG signal while TAD works. 4. If the FAX machine detects CNG signal, the fax will go into normal receiving mode. 5. Even though the fax does not detect CNG signal, the fax will go to receiving mode in hook-on condition. TYPE2 means: The operations of No. 1 to No. 4 are the same as those of TYPE 1. 5. If the fax does not detect CNG signal during working of TAD, the machine will go to standby mode. TYPE3 means: The operations of No. 1 to No. 2 are the same as those of TYPE 1. 3. The fax does not detect CNG signal during 15 seconds from TAD operation starting. 4. The fax starts CNG detection after 15 seconds from TAD operation. If the CNG is detected, the fax goes to the normal receive mode. 5. If the fax does not detect the CNG during TAD operation, the fax goes to standby mode.
07	Real time dialing	Enables or disables the real time dialling. 3 types selectable. (OFF/TYPE1/TYPE2) TYPE1: Real-time dialling is available when the telephone handset is OFF-HOOK. TYPE2: Real-time dialling is available when the telephone handset is OFF-HOOK or HOOK key is pressed.
08	TEL/FAX switching	Enables or disables the TEL/FAX automatic switching. ON : Enable OFF : Disable (Related item: FP10, TF22)

Table 2.2 (3/8) Service Personnel Initial Settings

<table>
<tr><th>T.F. No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>09</td><td>MDY/DMY</td><td>Switches LCD display and report print from month/day/year to day/month/year or vice versa.
MDY/DMY selectable.</td></tr>
<tr><td>10</td><td>Long document SCAN</td><td>Switches the function of transmitting long-size document (more than 360 mm).

ON : 1500 mm or 60 min.
OFF : 360 mm or 60 min.

Note: 60 min is transmitting time.</td></tr>
<tr><td>11</td><td>Tone for Echo</td><td>Switches the function to apply to poor lines with echo in overseas transmission, etc.

ON: Enables
OFF: Disables

<table>
<tr><td>Echo Protection</td><td>OFF</td><td>ON</td></tr>
<tr><td>Ignore 1st DIS</td><td>OFF</td><td>ON</td></tr>
<tr><td>CED-DIS timer</td><td>75 ms</td><td>1.5 sec</td></tr>
<tr><td>Tone for echo</td><td>OFF</td><td>ON</td></tr>
</table>
(TF-11 table)</td></tr>
<tr><td>12</td><td>MH only</td><td>Switches the function of limiting image compression to the MH codes only.

ON : Coding scheme is MH only. When the receiving image data is affected by noise on the telephone line.
OFF : Any of MH, MR and MMR.</td></tr>
<tr><td>13</td><td>High-speed modem rate</td><td>Specifies the modem’s starting speed, 33.6K, 28.8K, 14.4k, 9.6k, or 4.8kbps.</td></tr>
<tr><td>14</td><td>T1 (TX), timeout value</td><td>T1 (TX) is a time to detect up to 3 flags of DIS sent from a called fax machine.
Registers the time duration (in seconds) for which the fax waits for the remote station’s answer.
This timer starts when the last dialled digit has been sent in the automatic transmission mode.

* Selects the 3 digit timer
010 to 255 sec selectable.(in one second steps)</td></tr>
<tr><td>15</td><td>T1 (RX), timeout value</td><td>T1 (RX), timeout value (later)
Registers the time duration (in seconds) for which the fax waits for the remote station’s answer of individual country’s specification. This timer starts after the DIS is transmitted.
If T1 times out, the fax disconnects the line.
* Selects the 3 digit timer
010 to 255 sec selectable. (in one second steps)</td></tr>
</table>

Table 2.2 (4/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
16	T2, timeout value	T2, timeout value (layer) Registers the time duration (in seconds) for which the receiving fax detects the EOL (End Of Line) signal during phase C. The fax will disconnect the line when EOL cannot be detected within T2. * Selects the 3 digit timer 001 to 255 selectable. (in 100ms steps) For example: 060 × 100 ms =6 s
17	DIS bit32	Selects whether a called fax should transmit DIS bit 32 or not. ON : Transmits DIS bit 32. OFF: Does not transmit DIS bit 32. (When OFF, the following fanctions will not be supported: • Reception of Extra Fine (8×15.4 line/mm) • 300 dpi • SEP/SUB frames ***Note:*** To improve compatibility between this fax machine and other company's fax machines. If communication error occurs frequently when a fax sender is an older version.
18	Error criterion	Registers the threshould value whether to transmit RTN or MCF signal when the error occurs in received data. 00% to 99% selectable. (in one percent steps)
19	Off-hook bypass	Switches the function of maintaining communication without hooking up the telephone set in normal testing etc. ON : Enable OFF: Disable
20	NL equalizer	Selects equalization for the following cable lengths: 0 DB/4 DB/8 DB/12 DB selectable. ***Note:*** Relative to 1700Hz for length of 0.4mm diameter cable. Equalizer level is the difference of gain of equalized signal between 0.3kHz and 3.4kHz.
21	Modem attenuator	Adjusts the attenuation (dB) for the message send signal power level. Adjusting value is 0 to 15 dB in one dB steps. Since the maximum send signal power level (dB) of the fax is at 0 dB, you can select 0 dB to -15 dB in one dB steps for the send signal power level.

Table 2.2 (5/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
		0 to 15 dB. selectable (except FRE) 7 to 15 dB, selectable (FRE) ***Note:*** The send signal power level should meet your country's regulation. Some countries may specify the power level at a telephone exchange. In that case, you should substract the specified level from the line cable attenuation to determine the send level of your fax.
22	T/F tone attenuator (for TEL/FAX SW)	Adjusts the attenuation (dB) for the quasi-ring back tone send signal of TEL/FAX switching. Adjusting value is 0 to 15 dB in one dB steps.
23	MF attenuator	Adjusts the attenuation (dB) for the send MF tone power level. Adjusting value is 0 to 15 dB in one dB steps.
24	Ring duration detection time	Selects the minimum ring detection time to meet country's requirements. Adjusting time is 100 MS to 990 MS in 10 MS steps. 10 to 99 selectable. For example: (120 ms) 12×10 ms = 120 ms
25	CML timing	Selects the time from end of ring to CML-ON. Adjusting time is 100 MS to 1900 MS in 100 MS steps. 0 to 19 selectable. For example: (300 ms) 03×100 ms = 300 ms
26	Strobe for LED head	Setting of LED print head strobe signals (00000-11111). Selection of strobe width in LED head. "00000" is lightest and "11111" is darkest. ***Note 1:*** When the rank marking of the new replaced LED print head (new part) is same as that of the old used LED print head (old part), you do not always have to set the LED print head strobe signal.

Table 2.2 (6/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
		Note 2: Intensity ranking is determined by the first, second and third digits from the right on the LED print head serial number. (i.e. in .... 212, 212 is the intensity ranking.)

Setting of Technical Function No. 26

Setting / Rank Marking	MSB ↑ LSB																													
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1
		0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
		0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
291–313										*																					
269–290											*																				
248–268												*																			
229–247													*																	
212–228														*																
196–211															*															
181–195																*														
168–180																	*													
155–167																		*												
143–154																			*											
132–142																				*										
122–131																					*									
113–121																						*								
105–112																							*							
100–104																								*						

27	Media type	Selects the recording paper according to its quality. Medium, Medium-heavy and Heavy selectable.
28	Transfer roller latch current	Selects the latch current for transfer roller. (–2/–1/0/+1/+2)
29	NSF switch	NSF signal transmission selectable. ON: Transmits NSF signal OFF: Disables NSF signal ***Note:*** When NSF switch = OFF, the fax operation is shown as below. • When transmitting, even if OKI NSF signal is detected from the remote machine, the fax transmits DCS signal (The fax does not transmit NSC signal.) • When Remote Diag. = ON, the fax transmits NSF signal.

Table 2.2 (7/8) Service Personnel Initial Settings

<table>
<tr><th>T.F. No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>30</td><td>ID/TSI priority</td><td>Selects ID/TSI printing in the distant station ID column of the report.
ID: Prints NSF signal with personal ID.
TSI: Prints TSI signal without NSF.

<table>
<tr><th rowspan="2">Priority</th><th colspan="2">Set to ID</th><th colspan="2">Set to TSI</th></tr>
<tr><th>TX</th><th>RX</th><th>TX</th><th>RX</th></tr>
<tr><td>1</td><td>Personal ID</td><td>Personal ID</td><td>CSI</td><td>TSI</td></tr>
<tr><td>2</td><td>CSI</td><td>TSI</td><td>Dial No.</td><td>Dial No.</td></tr>
<tr><td>3</td><td>Dial ID</td><td>Dial ID</td><td>Personal ID</td><td>Personal ID</td></tr>
<tr><td>4</td><td>Dial No.</td><td>Dial No.</td><td>-</td><td>-</td></tr>
</table>
</td></tr>
<tr><td>31</td><td>Toner Count Clear</td><td>Enables or disables the clear operating of Toner Counter Clear (OT7) without Service bit ON/OFF (TF01).
ON: Enables
OFF: Disables</td></tr>
<tr><td>32</td><td>Parallel Pick Up</td><td>To control a receiving fax by 2 digits (the same digits as remote reception) from a telephone set connected parallel to the telephone line.
ON: To enable
OFF: To disable
(For the details, see Appendix A1, Section 4.3. Outline of Parallel Pick Up.)</td></tr>
<tr><td>33</td><td>V.34 TX Retray</td><td>Determine whether the V.34 communication error is to be remembered.
ON: Remembered
OFF: Not remembered</td></tr>
<tr><td>34</td><td>Symbol Rate</td><td>Set the V.34 modem symbol rate.
2400/3000/3200/3429 selectable.</td></tr>
<tr><td>35</td><td>Leased Line</td><td>Sets to leased line mode for China. When setting to this mode, CML, DP, and SR relays must be always set to ON. Sending on leased line is performed with document ON, no address designation and pressing of the START key.
Receiving on leased line is performed by answering automatically when detecting PIS or CNG.
ON: Leased line mode
OFF: No leased line mode</td></tr>
<tr><td>36</td><td>CED Send</td><td>Sets to send CED or not at the time of incoming call.
ON: Sending CED
OFF: Not sending CED</td></tr>
</table>

Table 2.2 (8/8) Service Personnel Initial Settings

T.F. No.	Item	Specifications
37	Top Feed	Adjusts read start position of various machines. -10 to +8 mm (in steps of 1 mm)
38	Bottom Feed	Adjusts read end position of various machines. -10 to +8 mm (in steps of 1 mm)
39	A/R FULL PRINT	Set whether to print automatically after every 50 Activity Report transmissions. ON: Print OFF: Does not print
40	COMMAND TIME OUT	Set the length of timeout for SMTP and POP3 protocols. 30SEC/5MIN
41	G3/G4 Learning	Sets up whether to learn G3/G4 communication. ON: Learn OFF: Not learn * Setting disabled if without ISDN option.
42	LLC Check	Determine whether the lower layer compatibility information instracted from the calling side is analyzed. ON: Analyzed OFF: Not analyzed * The setting data must be transferred to the G4 board. * Cannot be selected when G4 option board is not installed.
43	G3 Setup BC	Sets to send speech by BC of SETUP at making a G3I call as there exists an ISDN-PBX which accepts only the incoming call for speech purpose (BC=speech) Speech (for speech purpose) 3.1kHz (for communication Purpose)
44	G3 Fallback Cause (54 kinds of service code)	Enables to select service code for automatic fallback to G3 transmission if G4 transmission is faulty. There are 54 kinds of service codes that can be selected. (Refer to G3 fallback service code list). The service code not selected is dealt with as communication error. Settings values: Setting enabled only when G4 opt. is mounted.

1) TEL/FAX automatic switching

This function is used for the purpose of TEL/FAX automatic switching as follows.

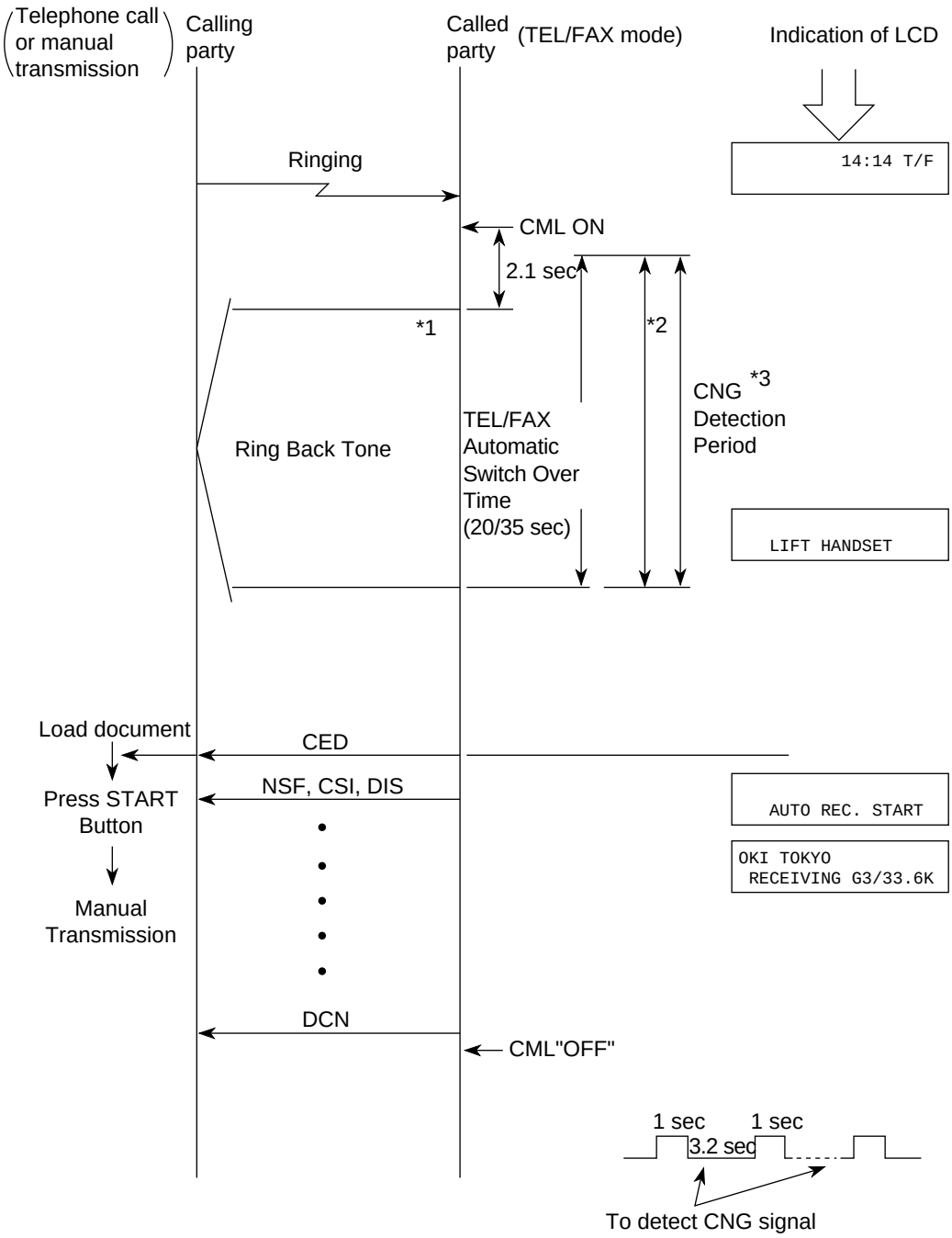
(1) If the machine detects a call with a CNG signal indicating an auto send facsimile call, it starts an automatic document receiving operation.

(2) If machine detects a call without a CNG signal, machine generates the buzzer sounds as a telephone call. The calling person can hear a “ring back” tone within a predetermined time.

If the operator at the called side does not lift the handset within the predetermined time, the machine automatically starts a document receiving operation.
Voice conversation will automatically be available through the handset by lifting up the handset while the call buzzer is sounding.

Note 1: The predetermined time is selectable between 20 or 35 sec.
(Function program No. 10)
2: No ringing signal is sent to the external telephone handset.
3: Choice of message sending level. The level is selectable from 0 to 15 dB in one dB step.
(Technical function No. 22)
4: TEL/FAX mode is available by Technical Function No. 08.

• TEL/FAX mode flow chart



Note ****1:*** Ring Back Tone — 1 sec. ON, 3.2 sec. OFF

****2:*** When you want to talk by phone, pick up handset.

****3:*** The called party can send CED to the calling party immediately to start FAX communication if the CNG is detected during the period.

****4:*** If the fax does not detect CNG signal during working of TEL/FAX mode, LCD display indicates “LIFT HANDSET”.

2) TAD mode

TAD: Telephone Answering Device

TAD can be connected to external telephone terminal to record your messages.

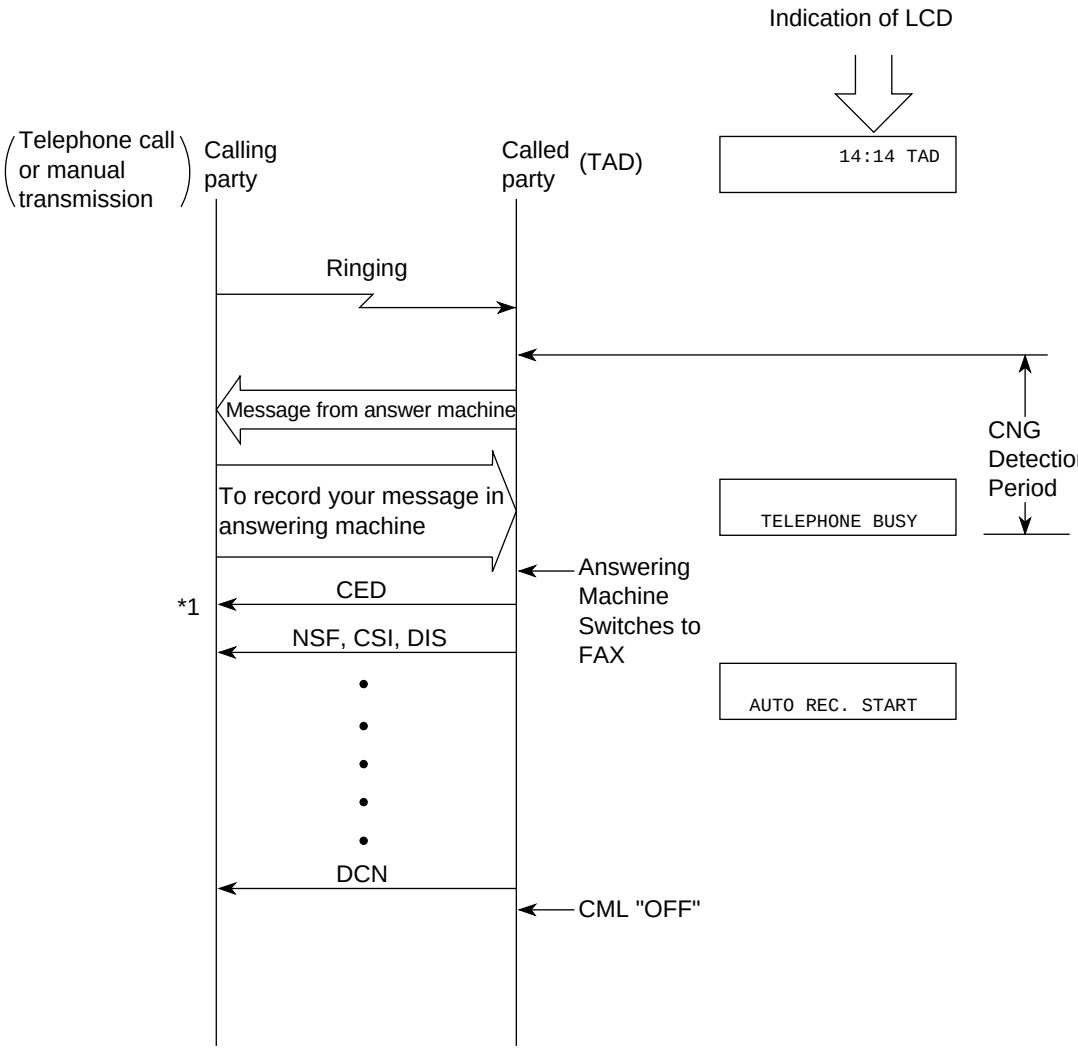
TAD records your speech and switches an automatic voice message response to the calling station.

Note 1: A choice of TAD mode is available by Technical Function No. 06.
2: The predetermined time is selectable between 20 or 35 sec.

• TAD mode flow chart

In case of TYPE 1;

Even though the fax does not detect CNG signal, the fax will go to receiving mode.



****1:*** To enable the manual TX mode.
Load document → Press START button → Manual transmission

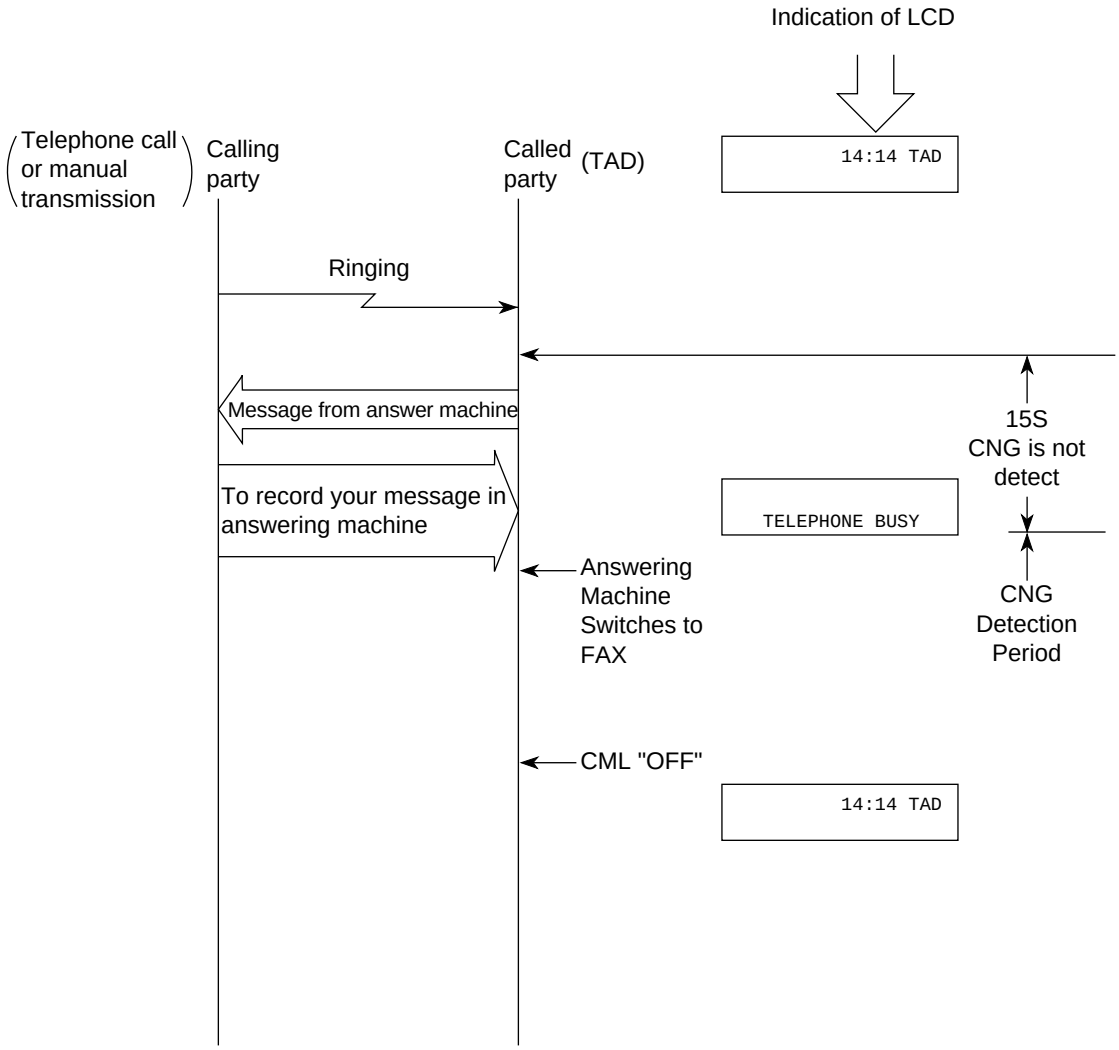
• TAD mode flow chart

In case of TYPE 2:

If the fax does not detect CNG signal during working of TAD, the machine will go to standby mode.

In case of TYPE 3:

The fax does not detect CNG signal during 15 seconds from TAD operation starting. The fax starts CNG signal detection after 15 seconds from TAD operation.
When the fax does not detect CNG signal and ends TAD operation (on-hook of TAD operation), the fax return to standby state.



2.2.1.3 Technical Functions Example

Note: The fonts displayed on the LCD operation panel may differ from the fonts written this manual.

(1) Service Bit Setting

1) Purpose
To enable or disable the following functions:
- Drum and toner counter display (clear)
- Service default report printing
- Protocol dump report printing
- Ring response time setting
- Dial parameters setting
- Printer counters clearing

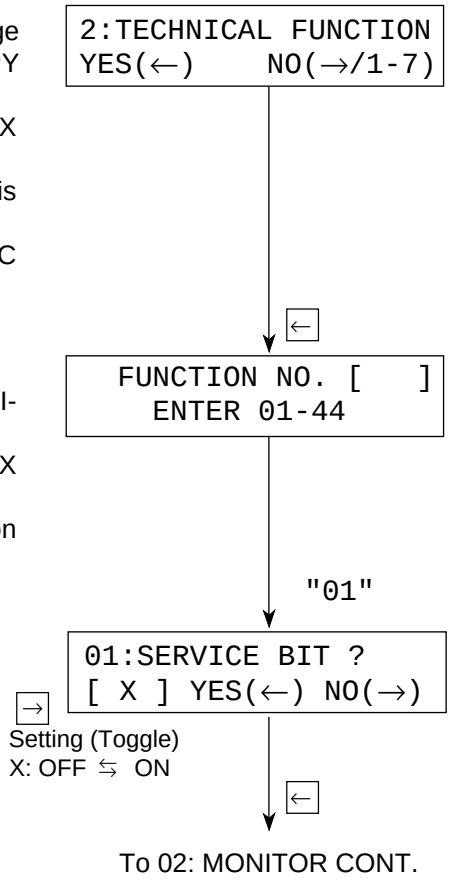
2) Procedure

Operations: **The display shows:**

- To bring the LCD up to the desired message press SELECT FUNCTION key once, COPY key twice and "2"key.
 (→ /1-5) is displayed when G4 option/I-FAX NIC option are not installed.
 (→ /1-6) is displayed when a G4 option is installed.
 (→ /1-7) is displayed when an I-FAX NIC option is installed.

- Press [←] key.
 ENTER 01-39 is displayed when G4 option/I-FAX NIC option are not installed.
 ENTER 01-40 is displayed when an I-FAX NIC option is installed.
 ENTER 01-44 is displayed when a G4 option is installed.

- Service bit setting is T.F. No. 01.
 Enter "01"



(2) Technical functions

Operations:

- Press SELECT FUNCTION key.
- Press COPY key twice.
- Press ← key.
- Press → key.
- Press ← key.
- Enter two-digit function number, then the display will show the set item corresponding to the number entered. If you want to set up all or several items starting with 01, then enter 01.

The display shows:

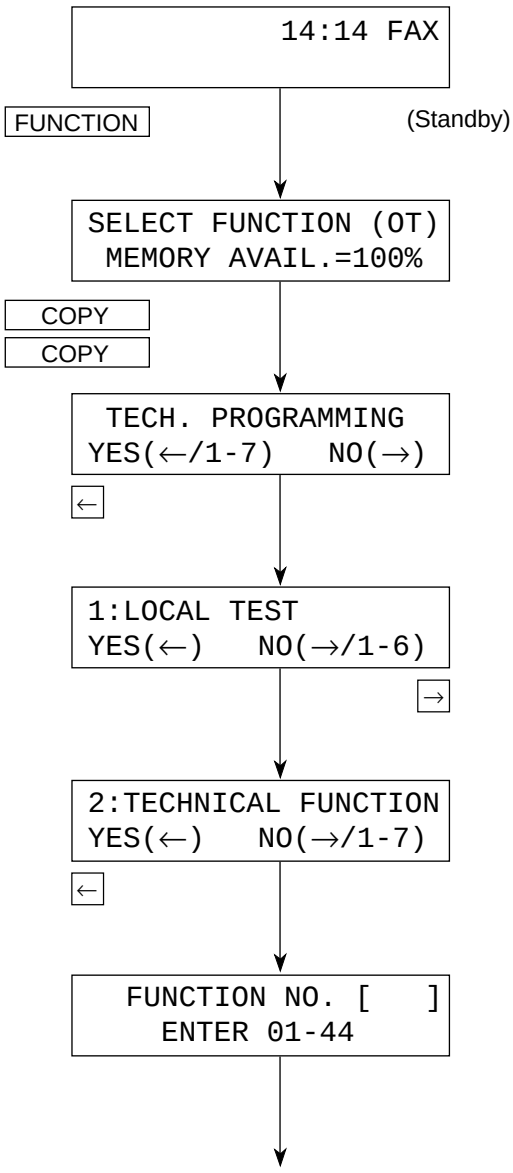


Table 2.4 (1/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
01	Service bit	01:SERVICE BIT [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
02	Line monitor control	02:MONITOR CONT. [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
03	Country code	03:COUNTRY CODE [X] YES(←) NO(→) → Setting X: USA→ INT → •••• TWN
04	Time and date print	04:TIME/DATE PRINT [X] YES(←) NO(→) → Setting X: OFF→ ONCE→ →ALL
05	TSI print	05:TSI PRINT [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
06	TAD mode (For external telephone answering device.)	06:TAD MODE [X] YES(←) NO(→) → Setting X: OFF→ TYPE1→ →TYPE2→TYPE3
07	Real-time dialling	07:REAL TIME DIAL [X] YES(←) NO(→) → Setting X: OFF→ TYPE1→ →TYPE2
08	TEL/FAX switching	08:TEL/FAX SWITCH [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
09	MDY/DMY format	09:MDY/DMY [X] YES(←) NO(→) → Setting (Toggle) X: MDY ⇆ DMY
10	Long document transmission	10:LONG DOC. SCAN [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON

Table 2.4 (2/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
11	Tone for echo (echo protection)	11:TONE FOR ECHO [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
12	MH only	12:MH ONLY [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
13	High-speed modem rate	13:H/MODEM RATE [X] YES(←) NO(→) → Setting X: 4.8k→ 9.6k → →14.4k →28.8k →33.6k
14	T1 (TX), timeout value (XTTO value)	14:T1(TX)TIMER VALUE [X] YES(←) NO(→) → X: 010 - 255 sec 14:T1(TX)TIMER VALUE [_] ENTER 010-255 3-digit timer entered. 14:T1(TX)TIMER VALUE [060] YES(←) NO(→) (Example)
15	T1 (RX), timeout value	15:T1(RX)TIMER VALUE [X] YES(←) NO(→) → X: 010 - 255 sec 15:T1(RX)TIMER VALUE [_] ENTER 010-255 3-digit timer entered. 15:T1(RX)TIMER VALUE [035] YES(←) NO(→) (Example)

Table 2.4 (3/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
16	T2, timeout value	16:T2 TIMER *100MS [X] YES(←) NO(→) → X: 001 - 255 16:T2 TIMER *100MS [_] ENTER 001-255 3-digit timer entered. 16:T2 TIMER *100MS [059] YES(←) NO(→) (Example)
17	DIS bit 32	17:DIS BIT32 [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
18	Error criterion	18:ERR. CRITERION [X] YES(←) NO(→) → X: 00 - 99% 18:ERR. CRITERION [_] ENTER 00-99 2-digit timer entered. 18:ERR. CRITERION [10] YES(←) NO(→) (Example)
19	Off-hook bypass	19:OFF HOOK BYPASS [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
20	NL equalizer	20:NL EQUALIZER [X] YES(←) NO(→) → Setting X:0 DB→ 4 DB → → 8 DB → 12 DB
21	Modem attenuator	21:ATTENUATOR [X] YES(←) NO(→) → Setting X:0 DB → 1 DB → 2 DB → ····· → 15 DB → 0 DB → ••••
22	T/F tone attenuator (for TEL/FAX switch)	22:T/F TONE ATT. [X] YES(←) NO(→) → Setting X:0 DB → 1 DB → 2 DB → ····· → 15 DB → 0 DB → ••••

Table 2.4 (4/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
23	MF attenuator	23:MF ATT. [X] YES(←) NO(→) [→] Setting X:0 DB → 1 DB → 2 DB → ····· → 15 DB → 0 DB → ••••
24	Ring duration detection time	24:RING DURA. *10 MS [X] YES(←) NO(→) [→] X: 10 - 99 24:RING DURA. *10 MS [_] ENTER 10-99 2-digit timer entered. 24:RING DURA. *10 MS [14] YES(←) NO(→) (Example)
25	CML timing	25:CML TIMING *100MS [X] YES(←) NO(→) [→] X: 01 - 19 25:CML TIMING *100MS [_] ENTER 01-19 2-digit timer entered. 25:CML TIMING *100MS [03] YES(←) NO(→) (Example)
26	LED Head strobe	26:LED HEAD STROBE [X] YES(←) NO(→) [→] X:5digits (0/1) 26:LED HEAD STROBE [_] ENTER 0/1 0/1 entered. 26:LED HEAD STROBE [01101]YES(←) NO(→) (Example)

Table 2.4 (5/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
27	Media type	27:MEDIA TYPE [X] YES(←) NO(→) → Setting X: M → MH → H
28	Transfer roller clatch current	28:TR LATCH CURRENT [X] YES(←) NO(→) → Setting X:-2 → -1 → 0 → +1 → +2
29	NSF switch	29:NSF SWITCH [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
30	ID/TSI priority	30:ID/TSI PRIORITY [X] YES(←) NO(→) → Setting (Toggle) X: ID ⇆ TSI
31	Toner count clear	31:TONER COUNT CLEAR [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
32	Parallel Pick Up	32:PARALLEL PICK UP [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
33	V.34 TX retry	33:V.34 TX RETRY [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
34	Symbol rate	34:SYMBOL RATE [X] YES(←) NO(→) → Setting (Toggle) X:2400 → 3000 → 3200 → 3429
35	Leased line	35:LEASED LINE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
36	CED send	36:CED SEND [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
37	Top feed	37:TOP FEED [X] YES(←) NO(→) → Setting X:1→ 2 → 3•••8 → -1 → -2 → -3•••-10 → 0

Table 2.4 (6/6) Technial Functions

T.F. No.	Name of Function	The Display Shows
38	Bottom feed	38:BOTTOM FEED [X] YES(←) NO(→) → Setting X:1→2→3•••8→-1 →-2→-3•••-10→0
39	A/R Full print	39:A/R FULL PRINT [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
40	Command time out	40:COMMAND TIME OUT [X] YES(←) NO(→) Note 3 → Setting (Toggle) X: 30 SEC ⇆ 5 MIN
41	G3/G4 learning	41:G3/G4 LEARNING [X] YES(←) NO(→) Note 1 → Setting (Toggle) X: OFF ⇆ ON
42	LLC check (Lower layer compatibility information)	42:LLC CHECK [X] YES(←) NO(→) Note 1 → Setting (Toggle) X: OFF ⇆ ON
43	G3 setup BC	43:G3 SETUP BC [X] YES(←) NO(→) Note 1 → Setting (Toggle) X: OFF ⇆ ON
44	G3 Fallback cause	Note 1 Note 2 44:G3 FALLBACK CAUSE [BA01] YES(←) NO(→) → key 44:G3 FALLBACK CAUSE [*BA01] YES(←) NO(→) ← key ← key 44:G3 FALLBACK CAUSE [BA02] YES(←) NO(→) ← key 44:G3 FALLBACK CAUSE [BB07] YES(←) NO(→) ← key FUNCTION NUMBER [_] ENTER 01-43

Note 1: Changed only when G4 opt. mounted.

2: • 54 types of service codes are displayed in order by pressing the ← key. (See G3 fallback service code list)
- Use the → key to change whether G3 fallback is targeted.
- An asterisk * just before the service code is performed by G3 fallback.
- The set values selected until now are valid even when the STOP key is pressed during processing.

3: • Only when an I-FAX NIC option is installed.

Table 2.5 G3 Fallback Object Service Code List (If G4 TX is faulty)

Classification	Code	Description
Dch layer 3	BA01	Unallocated (unassigned) number
	BA02	No route to specified transit network
	BA03	No route to destination
	BA06	Channel unacceptable
	BA07	Call awarded and being delivered in an established channel
	BA10	Procedure sequence error, Line disconnected during in-band procedure
	BA11	User busy
	BA12	No user responding
	BA13	No answer from user (user alerted)
	BA15	Call rejected
	BA16	Number changed
	BA1A	Non-selected user clearing
	BA1B	Destination out of order
	BA1C	Invalid number format
	BA1D	Facility rejected
	BA1E	Response to STATUS-ENQUIRY
	BA1F	Normal, unspecified
	BA22	No circuit/channel available
	BA26	Network out of order
	BA29	Temporary failure
	BA2A	Switching equipment congestion
	BA2B	Access information discarded
	BA2C	Requested circuit/channel not available
	BA2F	Resources unavailable, unspecified
	BA31	Quality of service unavailable
	BA32	Requested facility not subscribed
	BA39	Bearer capability not authorized
	BA3A	Bearer capability not presently available
	BA3F	Service or option not available, unspecified
	BA41	Bearer capability not implemented
	BA42	Channel type not implemented
	BA45	Requested facility not implemented
	BA46	Only restricted digital information bearer capability is available
	BA4F	Service or option not implemented, unspecified
	BA51	Invalid call reference value
	BA52	Identified channel does not exist
	BA53	A suspended call exists, but this call identity does not
	BA54	Call identity in use
	BA55	No call suspended
	BA56	Call having the requested call identity has been cleared
	BA58	Incompatible destination
	BA5B	Invalid transit network selection
	BA5F	Invalid message, unspecified
	BA60	Mandatory information element is missing
	BA61	Message type non-existent or not implemented
	BA62	Message not compatible with call state or message type non-existent or not implemented
	BA63	Information element non-existent or not implemented
	BA64	Invalid information element contents
	BA65	Message not compatible with call state
	BA66	Recovery on timer expiry
	BA6F	Protocol error, unspecified
	BA7F	Interworking, unspecified
	BB01	CONN message wait time out
	BB07	Reset request by network

All service code can be selected by G3 Fallback cause (Technical function: No. 43)

2.2.1.4 User's Functions

This section explains the items usually set up by general users.

Table 2.6 shows the initial setting items and their purposes.

Each F.P.can be accessed by entering the corresponding function number on Function Programming.

The detailed procedure of the initial setting items will be explained on the following pages.

Note: S-ON: Effective if the service bit has been set on.
FP: Function program setting
TF: Technical function setting

1) User's Functions

Table 2.6 (1/7) User's Functions

No.	Item	Specifications
1	Auto dial	
	1) One-touch dial	40 one-touch keys are provided. Max. 40 digits for each location number. In addition to an ordinary location number, another alternate location number can be registered in to each one-touch key. Purposes of this alternate location number, When a call to the first location number is not answered, the alternate location number will be automatically dialled. Capable of registering an e-mail address when installed with an I-FAX NIC option. Up to 64 characters can be input. Capable of designating a File Format or adding a Sender ID.
	2) Three-digit dial	150 different codes are provided. Three-digit location code; 001 to 150 Max. 40 digits for each location number.
	3) Keypad dial	With ten-key pad. Max. 40 digits for one operation
	4) Chain dial	The number of dialling digits can be expanded to longer digit numbers by chaining any number of the above 1), 2) and 3).
	5) Mixed dial	Type of dialling can be changed from pulse dial to tone dial halfway in dialling process. The changing point is specified by the * key. This feature is not available in all countries.
2	Manual dial	With a telephone handset.
3	Receive mode	
	1) Auto receive mode	Selectable by key operation.
	2) Manual recevice mode	Selectable by key operation.
	3) Telephone/fax automatic switchover	Selectable by key operation. The fax recognizes a fax call from a verbal call as follows: If the fax detects a call with a CNG signal, it starts an automatic document receive operation. If it detects a call without a CNG signal, it sounds the buzzer to indicate a voice call. Operator can answer the call by lifting the telephone handset. If he or she does not lift the handset within predetermined time (20 sec. or 35 sec.), the fax automatically starts a document receive operation. * FP + 10 (To determine the timer.) ***Note:*** Refer to page 109.

Table 2.6 (4/7) User's Functions

No.	Item	Specifications
4	Automatic redial	PTT parameter setting disables or enables this feature, and specifies redial times and redial intervals. * See 2.2.1.9 for the service bit condition depending on PTT parameters.
5	Last No. redial	"REDIAL" key is provided. There is no limit on number of repeat attempts. If machine is in Power Save mode (not available for ODA version) manual redial with REDIAL key is not possible.
6	Group dial	• 20 dialling groups Max. 190 locations Grouping some one-touch keys and some three-digit auto dial codes to which telephone numbers have been assigned. This group setting makes broadcast operation simple. 1) OT for E-mail registration can be mixed with OT/AD for Tel No. registration. 2) Search processing by the SEARCH key is performed. • OT for Tel or E-mail registration is searched.
7	Telephone directory and location ID (Alpha search)	In addition to fax numbers, an alpha/ numeric name can be assigned to each of one-touch keys and three-digit dial codes. Any location ID can be searched and displayed on LCD. Then direct dialling to the ID's station can be performed. There are two methods of searching: (1) Search based on the first character specified. (2) Searching by displaying all registered location IDs one after another in the lexicographical order. Location ID: Max. 15 characters
8	Local copy	Printing resolution: Horizontal: 300 dpi (Fine, EX Fine), 200 dpi (STD) Vertical: 3.85 (STD), 7.7 (Fine) or 15.4 line/mm (EX Fine)
9	Multiple local copy	Up to 99 copies.
10	Manual loading feeder	One single sheet from the feeder below the paper exit can be copied. Example of sheets:Transparency for an overhead projector

Table 2.6 (5/7) User's Functions

No.	Item	Specifications
11	Broadcast (Memory transmission)	Max. 240 remote locations can be specified by the following means: • One-touch keys. • Three-digit auto dial codes. • 10 keypad dial number (Max.50) The setting of delayed transmission and delayed broadcast must not exceed the total number of specified time. When multiple locations are specified for one broadcast (1) The fax prints a broadcast entry report, if specified in operating sequence. (2) The fax can print a broadcast confirmation report. (FP + 02 To enable or disable this printout)
12	Delayed transmission from the memory	The fax can automatically transmit documents at 20 specified times from the memory.
13	Polling transmission (To be polled)	Document(s) placed on the feeder or a transmission image stored in memory can be collected by a remote station.
14	Polling reception	The fax can collect documents from one remote station.
15	Bulletin polling	A kind of polling transmission. Bulletin polling enables polling transmission many times until deleting the documents stored in the memory.
16	Transmission preparation (Hopper)	An operator can prepare documents for transmission even while the fax is enagaged in message reception. They will be automatically transmitted upon completion of the reception. An operator can also prepare documents for transmission during transmission from memory.
17	No toner reception	The fax can temporarily store received messages in memory when toner has run out. The messages are printed when toner has been newly supplied or an operator presses the SELECT FUNCTION key followed by the one-touch key No. 2 under the LCD message “PRINT MEMORY MSG.” in the standby mode. *FP + 22 (To enable or disable this function)
18	Smooth printing	The documents received in the STD mode can be printed at the FINE resolution by means of generating one line based on the two consecutive original lines and printing it between them.

Table 2.6 (6/7) User's Functions

No.	Item	Specifications
19	Dual Access	The documents for transmission can be read into the memory even while the fax is engaged in another memory transmission, reception in the ECM or non-ECM mode. 1) Operation of memory transmission while the fax is engaged in a communication (memory TX, memory RX or print mode RX). 2) Copy while the fax is engaged in a communication (memory TX or memory RX). ***Note:*** Condition for operation a) Copy is invalid when the machine is already engaged in an operation which is using or could use the printer. 3) Call reception while the fax is engaged in scanning documents for memory transmission when the auto receive mode is in “FAX” or “T/F” mode, although “TEL” mode is not valid. Refer to sub-section 2.2.1.7 for dual access operation. For the patterns of dual access refer to the following, Dual Access Combination Table.

Table 2.6 (7/7) User's Functions

No.	Item	Specifications

Dual Access Combination Table

1'st \ 2'nd		Reception	Prefeed	Remote input display	Preparation TX	Scanning to Memory
ON HOOK	Standby	○	○	○	○	○
	During FAX Calling	×	○	○	○	○
Call Reception	During RING RESPONSE	×	○	○	○	○
	During detection of TEL/FAX	×	○	×	×	×
	During TAD detection	×	○	×	×	×
	1st Phase B	×	○	○	○	○
Feeder TX	Calling ~ Transmission	×	×	×	×	×
	Transmission after scanning	×	○	○	○	○
Memory TX	During Scanning	○	×	×	×	×
	Dialling and Calling	×	○	○	○	○
	During TX	×	○	○	○	○
Polling RX	Dialling and Calling	×	○	○	○	○
Memory RX		×	○	○	○	○
Paper RX	Reception and print	×	○	○	○	○
	Residual Print Processing	○	○	○	○	○
	Memory reception	×	○	○	○	○
During voice request is initiated.		×	○	×	×	×
During copy		○	○	×	×	×
During automatic printing of received messages		○	○	○	○	○
During automatic printing of reports		○	○	○	○	○
During operation		×	○	×	×	×

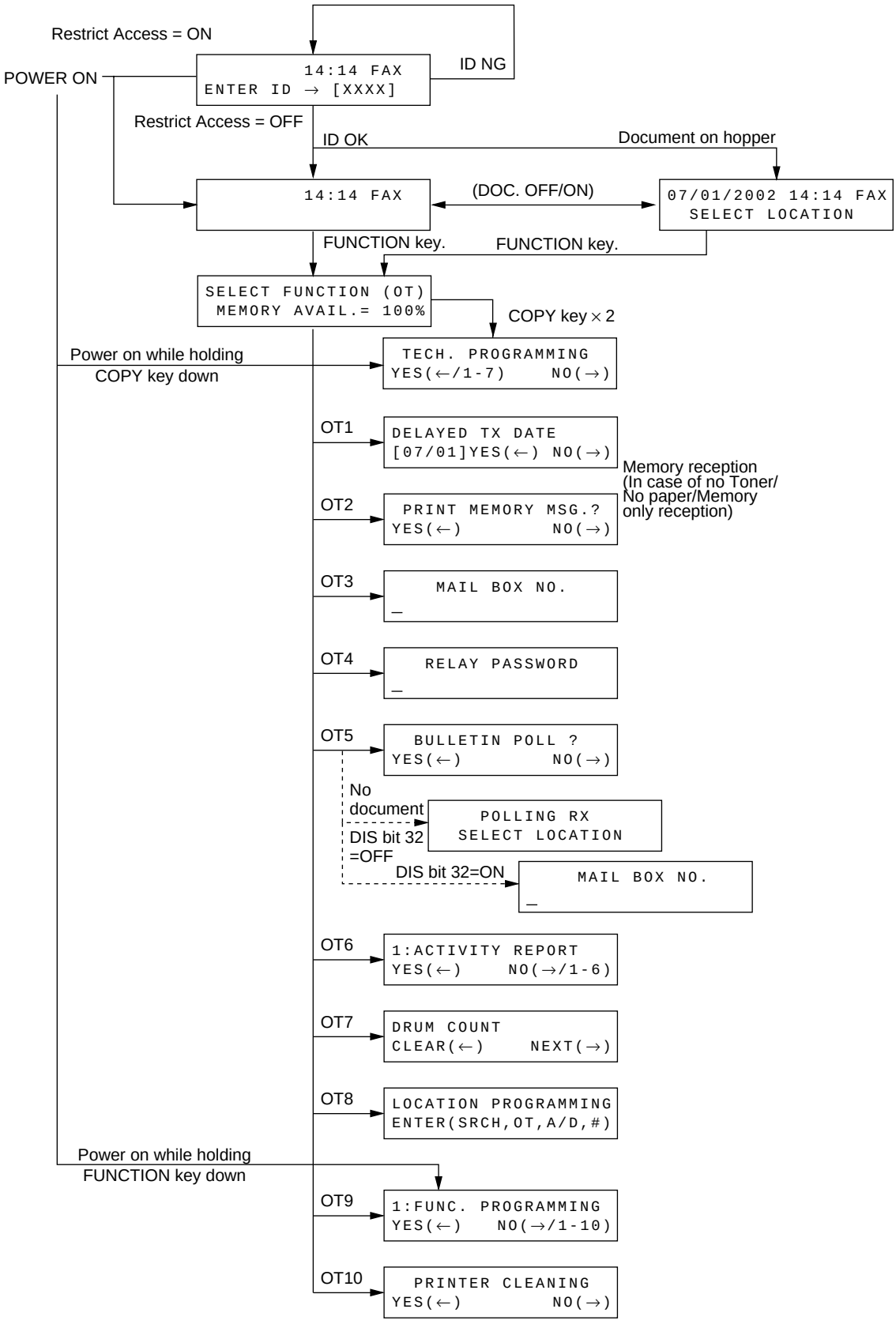
* Operation during communication is not determined yet.

<Note> ○: Available, ×: Not available

2) User's Initial Settings

Note: The fonts displayed on the LCD operation panel may differ from fonts written this manual.

2)-1 One Touch Key Operations



Note: OT2, OT6 - OT10 are invalid during PC printing.

Table 2.7 (1/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
1	Delayed transmission (TX)	This function enters a message transmission time(s) and location(s) for execution at a specified time. 20 specified times can be registered (within 3 days.)
2	Print from Message in Memory (Print Memory MSG.)	To print out the received messages from memory in “MSG. IN MEMORY” mode, or when the machine has run out of recording paper (including the door open and no toner state). When received messages are in the memory. “MSM. IN MEMORY” is indicated on the LCD. When printing in the Memory Only Reception, an operator has to print the received message by the Memory message printing operation.
	Print from Confidential Reception Message (Print Personal Box)	To print out the confidential received messages in the memory with 1-digit personal box number. The maximum number of personal boxes is 16. Personal boxes are numbered 1 to 16. When confidential received messages are in the memory, “MESSAGE IN MEMORY” is indicated on the LCD.
3	Confidential transmission	This function transmits a Confidential-marked message to any one of 64 predesignated mailboxes provided in a distant machines. To program the mail box number 01 to 64. Available remote station’s mail box numbers: OKIFAX 2400/2600: 01 to 40 OKIFAX 1000: 01 to 16 OKIFAX 2300/OF-18/OF-150: 01 to 16 OKIFAX 38/OF-27: 01 to 64 OKIFAX 2350/1050: 01 to 08 OKIFAX 2450: 01 to 08 OKIFAX 5200/5300: 01 to 08 OKIFAX 5500/5600: 01 to 16 OKIFAX 5700/5900: 01 to 16 OKIFAX 5750/5950: 01 to 16 OKIFAX 5780/5980: 01 to 16 OKIOFFICE84/OKIFAX 4500: 01 to 08 OKIFAX 4550/OKIOFFICE87: 01 to 08 OKIFAX 4580: 01 to 08 OKIFAX 5400/5650: 01 to 16 OKIFAX 5680: 01 to 16 Also capable of confidential transmissions by designating a SUB number for a different company’s device that supports a confidential transmission function with a SUB capacity.
4	Relay broadcast initiate transmission	This function automatically originates a message call via relay key station (which must be equipped with OKIFAX 2600, OF-38, OF-27, OKIFAX5950 or equivalent) up to 120 locations for OKIFAX 2600 and 99 locations for OF-38 or OF-27. To program relay password. To enable or disable the relay report. When auto dial code number 150 is not assigned, relay broadcast report is not transmitted. When it is assigned, relay report is transmitted to fax number assigned to auto dial code. Also capable of relay request transmissions by designating a SUB number for a different company’s device that supports a relay function with a SUB capacity.

Table 2.7 (2/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
5	Polling transmission/reception	Polling TX: The documents placed on the feeder or a transmission image stored in memory can be collected by a remote station. Bulletin polling: A kind of polling transmission. Bulletin polling enables polling transmission many times until deleting the documents from one remote station. Polling RX: The fax can collect documents from one remote station. Also capable of Selective Polling by designating a SEP number for a different company's device that supports a polling function with a SEP capacity.
6	Report printing	The report print in 6 items are as follows: 1. Activity report 2. Broadcast message confirmation report (Multi location) 3. Activity memory files report 4. Phone directory report 5. Configuration list without service default (Service default report if service bit sets to ON.) 6. Protocol dump list 7. Log report (Set to on Service bit) 8. G4 Log. report (Operatable only at G4 opt. & Service Bit = ON) * Refer to Reports and Lists of Chapter 1.
7	Selection of Counter display	The operation for displaying and clearing the print counters in five ways are as follows: 1. Drum counter When I/D unit reaches run-out time, "CHANGE DRUM" is appeared in LCD. Under above condition, user can see the Drum message and clear. However, No. of counter is not shown for user (Service bit=OFF). After user changed the Drum and clear operation, "CHANGE DRUM" in LCD is displayed. However, the drum counter clear is possible even if the drum is not at the end of its lifespan. 2. Toner counter This counter provided to serviceman to check the number of toner counter. When srvice bit=OFF, this counter message is skipped. When service bit=ON, this counter is cleared by operation. When TF31=ON, this counter is cleared by operation without Service bit ON/OFF (TF01). (User can clear the toner counter.) 3. Drum (T) counter This counter to serviceman to know the total number of DRUM counter for the machine. When service bit=OFF, this counter message is skipped. When service bit=ON, this counter is cleared by operation.

Table 2.7 (3/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
		4. Print counter This counter is provided to user. Display shows how many times recording paper has been printed. But user cannot clear this number. 5. Scan counter This counter is provided to user. Display shows how many times document has been passed the ADF. But user cannot clear this number.
8	Location program 1. One-touch key	One-touch keys allow registering: (1) Telephone number (numeral, -, P and space) in 40 digits. (2) Alternate fax telephone number in 40 digits. (additional registration) (3) ID for the telephone directory function in 15 characters (alphabetic, numeric and symbolic). (4) 40 one-touch keys are provided.
	2. Three-digit auto dial program	Auto-dial No. 001 to 150 allows registering telephone number in 40 digits and ID for the telephone directory maximum 15 characters (alphabetic, numeric and symbolic).
	3. Group setting	Grouping some one-touch keys and some three-digit auto dial codes to which telephone numbers have been assigned. 20 group programming are available. The group programming makes multiple polling reception and broadcast operation simple.
9	User's programs 1. Function program	01: MCF (SINGLE-LOC.) 02: MCF (MULTI-LOC.) 03: ERR. REPORT (MCF.) 04: IMAGE IN MCF. 05: SENDER ID 06: MONITOR VOLUME 07: BUZZER VOLUME 08: CLOSED NETWORK 09: TX MODE DEFAULT 10: T/F TIMER PRG. 11: RING RESPONSE 12: DISTINCTIVE RING 13: PAPER SIZE 14: USER LANGUAGE 15: INCOMING RING 16: REMOTE RECEIVE 17: MEM./FEEDER SW. 18: POWER SAVE MODE 19: ECM FUNCTION 20: REMOTE DIAGNOSIS 21: PC/FAX SWITCH 22: NO TONER MEM RX 23: MEM FULL SAVE 24: CONTINUOUS TONE 25: INSTANT DIALING 26: RESTRICTED ACCESS 27: WIDTH REDUCTION 28: TONER SAVE 29: CNG COUNT 30: 600 DPI FAX TX 31: ISDN DIAL MODE

Table 2.7 (4/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
		32: SPEECH RECEIVE 33: OPTION I/F MODE 34: PAPER SIZE CHECK 35: PRINT JOB T.O. 36: FLATBED TX MODE 37: FLATBED TX T.O. 38: HALF SIZE SCAN 39: AUTO TRAY SW Refer to Table 2.7 for specification of the function programs No. 01 through 34.
	2. Dial parameters	1. REDIAL TRIES 2. REDIAL INTERVAL 3. DIAL TONE DETECT 4. BUSY TONE DETECT 5. MF (TONE)/DP (PULSE) 6. PULSE DIAL RATE 7. PULSE MAKE RATIO 8. PULSE DIAL TYPE 9. MF(TONE) DURATION 10. PBX LINE 11. FLASH/NORMAL 12. AUTO START 13. DIAL PREFIX
	3. Clock adjustment	Refer to Table 2.6 and 2.2.1.9 for specification of dial parameter settings.
	4. System data program	Date and time adjustment. ***Note:*** Data outside 1996 to 2095 cannot be registered. (1) TSI/CSI Registration of TSI/CSI/CIG (numbers, + and space) in 20 digits. TSI: Transmitting Subscriber Identification CSI: Called Subscriber Identification CIG: Calling Subscriber Identification (2) SENDER ID Registration of sender ID (alphabetic, numeric and symbolic) in 32 digits. (3) CALL BACK NO. Registration of telephone number for call-back message (alphabetic, numeric and symbolic) in 20 digits.
	5. Personal box programming	To allow the operator (in this case, a person who wishes to assign a password to personal box) to assign a two functions to 16 personal-box. (a) Confidential RX (b) Bulletin Polling TX Used with confidential RX and Bulletin polling TX and Advanced T30 protocol. Personal box setting for Bulletin poll using SEP frame and Confidential using SUB frame when remote machine has a SEP/SUB capability. The box No. 0 is used for only global Bulletin Polling TX.

Table 2.7 (5/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
	6. Forwarding number programming	Specify the destination of forwarding for incoming call. Ahen the transfer destination telephone number is set, forwarding can be specified. The message is first received in the memory and when this reception is completed, the fax automatically transfers the message to one designated location. 1) Number of forwarding for incoming call destination that can be specified. 2) Number of characters used to specify a destination. MAX 40 characters.
	7. Memory password programming	Registering the password required (4-digit numerals) for outputting the data received by Memory Only Reception mode or change from Memory Only Reception mode. When the four-digit numeric password is registered. The password input is required upon outputting documents or change from Memory Only reception mode.
	8. I-FAX NIC OPTIONS	Capable of operating when installed with an I-FAX NIC option. The following settings become capable. 1) I-FAX NIC SETTINGS Capable of setting items related to I-FAX such as Coding Mode or File Format. 2) POP INTERVAL Capable of selecting from OFF/1MIN/5MIN/10MIN/ 30MIN/60MIN/4 user-programmed times. 3) NETWORK SETTINGS Settings related to network connection such as IP Address and Subnet Mask become capable. Furthermore, the data is stored in the I-FAX NIC option side. 4) Capable of initializing data stored in the I-FAX NIC option board. For details, refer to “I-FAX NIC OPTION” in the Appendix.
	9. INTERNET RX	Capable of operating when installed with an I-FAX NIC option. Capable of manual POP reception. For details, refer to “I-FAX NIC OPTION” in the Appendix.
	10. Restrict ID programming	Restrict ID is a function available only person who knows Password, and this function can register 24 types of ID (Department No.) when Restrict Access of user's setting No. 26 is set to ON. * Only when Restrict Access = ON.

Table 2.7 (5/6) User's Initial Settings (One-touch key Program)

F+OT No.	Item	Specifications
	11. ISDN programming	Sets to Country code, ISDN No. (subscriber number), ISDN ID (subscriber code) and ISDN sub address. 1) Setting values This setting consists of the following: • Country code: 3 characters (digits only) • ISDN No. (subscriber number): 20 characters (digits only) • ISDN ID (subscriber code): 10 characters (alphabetic characters, lowercase characters) • ISDN sub address: 19 characters (digits only) Handling in G3 mode Handling in G4 mode Used for sub collation. ***Note:*** This setting can be made when G4 option is mounted.
10	Printer cleaning	This drum cleaning function removes the residual toner on the I/D (image drum) Unit surface by printing.

2)-2 Function Program

Table 2.8 (1/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
01	Message confirmation report (Single location)	Enables or disables the automatic message confirmation report printing after a single location call. ON: Printing the MCF report. OFF: Disables this function.
02	Message confirmation report (Multiple locations)	Enables or disables the automatic message confirmation report printing after a multiple polling or broadcast. ON: Prints the MCF report. OFF: Disables this function.
03	Error report (MCF)	Enables or disables the automatic error report printing when transmission error occurs. (Excepts for SERVICE CODE “0000”.) ON: Printing the error report. OFF: Disables this function.
04	Image in MCF	Selects the automatic printing of the image on the first sheet below the message confirmation report. PART: Prints the front portion in equal size. WHOLE: Reduces in the sub-scan direction and prints the entire image. OFF: Disables this function.
05	Sender ID	The fax can transmit programmed alphanumeric message, such as company’s name consisting of up to 32 characters. Enables or disables the sender ID function. * (Outside only) ON: Enables OFF: Disables
06	Monitor Volume	Controls the volume. OFF/Low/Mid./H-Mid./High selectable.
07	Buzzer volume	Selects the sound volume of each buzzer (end of communication buzzer, voice request buzzer and off-hook alarm) and software ringer from high, low and middle levels. Low/Mid/High selectable. ***Note:*** Fixed a low level for key touch tone.

Table 2.8 (2/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
08	Closed network	The fax compares lower four digits of TSI/CSI received from remote station with fax numbers registered locally for one-touch dial and three-digits autodial. If unmatched, the communication will be automatically disconnected. OFF/RX only/TX and RX selectable. * Prevention of direct mail or wrong number calls. (Reference) TSI: Transmitting subscriber identification CSI: Called subscriber identification
09	TX mode default	Selects automatically the mode set up when a document is loaded on the feeder. The following combinations are selectable. STD/NORMAL→STD/DARK→STD/LIGHT→ FINE/NORMAL→FINE/DARK→FINE/LIGHT→ EX.FINE/NORMAL→EX.FINE/DARK→ EX.FINE/LIGHT→PHOTO/NORMAL→ PHOTO/DARK→PHOTO/LIGHT→ STD/NORMAL→ • • •
10	Telephone/fax automatic switchover time	Specifies the time for which the fax alerts an operator on reception of a call in the telephone/fax automatic swichover mode. 20 sec./35 sec. selectable Refer to page 2-30
11	Ring response time	User can register ring response time if National code is: INT'L, GBR, NOR, SWE, USA, HOL, ESP. ITA, GRE, IRL, FIN, DEN, HUN, TCH, POL, POR, LTA, MEX, CHN, RUS, TWN or GER Selects the ring response time. 1 ring/5/10/15/20 sec. selectable.
12	Distinct ring	Specifies the detected distinct ring. (not available in all countries) OFF/ON/SET selectable.
13	Paper size	Recording paper sizes in the 1st tray Sets a size of recording paper loaded in the 1st tray. Requires of an operator to set a size of recording paper that can not be automatically detected. In addition, selection of EXEC./A5/A6/JIS-B5 is available only when a 1284 option is installed. Setting values A4/ LETTER/LEGAL13/LEGAL14/EXEC./A5/A6/JIS-B5 Recording paper sizes in the 2nd tray Sets a size of recording paper loaded in the 2nd tray. Capable of setting only when a 2nd tray is installed. In addition, selection of EXEC./A5/JIS-B5 is available only when a 1284 option is installed. Setting values A4/LETTER/LEGAL13/LEGAL14/EXEC./A5/JIS-B5

Table 2.8 (3/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
14	User language	A choice of 5 languages for LCD and print message are available. GER, FRE etc. are displayed insted of OTHER. ENGLI/OTHER selectable.
15	Incoming ring	Instead of ringer circuit, software can control built-in speaker to ring sound. To enable (ON) or disable (OFF) or distinctive ring (DRC) a software generated ring sound to indicate arrival of an incoming bell.
16	Remote receive	This function is used to transfer a call received by an external telephone set (connected to fax) by entering two-digit MF tones if the remote receive setting is not OFF The following combinations are selectable. 00/11/22/33/44/55/66/77/88/99/**/##/OFF selectable. ***Note:*** Parallel pick-up control inhibited when this is set to OFF.
17	Memory and feeder switch	Switches the transmission mode between the memory and feeder. MEM. TX/FEEDER TX selectable. ***Note:*** This function becomes effective when Instant Dial of No. 25 is set to OFF.
18	Power save mode	The power supply will be fed to all circuits of a fax machine whenever the fax goes to the operating state. The power save mode has reduced the power consumption at standby to below 0.5 W. ***Note:*** Power save mode is not available for ODA version. Pre-heating time (Standby to print): Approx 30 sec Eanbles or disables power save mode ON: Enables OFF: Disables
19	ECM function	Enables or disables ECM (error corection mode) communication. ON: Enables OFF: Disables
20	Remote diagnosis	Enables or disables the remote diagnosis function when the machine can allow remote diagnosis from remote center. ON: Enables OFF: Disables
21	PC/FAX switch	To enable or disable PC interface function. When PC reception is not available, for example, application is not activated on the PC or cable is missing between PC and fax etc., this setting allows to switch from PC to fax reception automatically. ON: Automatically change to fax reception OFF: No reception

Table 2.8 (4/6) User's Initial Settings (Function Program)

<table>
<tr><th>P.F. No.</th><th>Item</th><th>Specifications</th></tr>
<tr><td>22</td><td>No toner memory reception (NO Toner MEM RX)</td><td>Enables or disables the memory reception when the fax is the toner low condition.

ON: Receives the message in the memory reception when the fax is the toner low condition. The messages are printed when toner has been newly supplied.
OFF: Prints the message even the remaining toner level is low or none. Print quality is not guaranteed.</td></tr>
<tr><td>23</td><td>Memory full save (MEM Full Save)</td><td>Broadcast transmission and other features originate calls after all the document read in memory. When Memory Full occurs during reading documents and operator time out occur, all the readout data must be deleted (OFF setting) or all the data must be sent (ON setting).
Select either ON or OFF setting as follows:

ON: Selecting display
OFF: Selecting delete at all times.

Note: Operator timeout means operator does not respond during 59 seconds.</td></tr>
<tr><td>24</td><td>Continuous Tone</td><td>Setting of sounding warning tone after reception.

ON: Warning tone sounding stops by operator's STOP key pressing
OFF: No warning tone</td></tr>
<tr><td>25</td><td>Instant Dialing</td><td>Setting to start reading documents upon call origination when transmitting.

ON: Dialing while document scanning
OFF: Dialing after document scanning</td></tr>
<tr><td>26</td><td>Restricted Access</td><td>Restricted Access limits accessible users by setting a password beforehand. Inputting the password then enables the user's access to the machine (FAX terminal).

ON: Enables Restricted Access
OFF: Disables</td></tr>
<tr><td>27</td><td>Width Reduction</td><td>This function can print characters written at the edges of a document.
Switches the reduction of the horizontal scanning direction.

ON: Reduction printing (216 mm to 203 mm)
Reduction rate is shown as below.
Copy
<table><tr><th></th><th>STD</th><th>Fine</th><th>EX Fine</th></tr><tr><td>A4 size</td><td>97.9%</td><td>97.5%</td><td>97.5%</td></tr><tr><td>Except A4 size</td><td>94.5%</td><td>95.0%</td><td>95.0%</td></tr></table>Reception message<table><tr><th>8 dot/mm</th><th>300 DPI</th></tr><tr><td>94.1%</td><td>92.6%</td></tr></table>OFF: 203 mm printing</td></tr>
</table>

Table 2.8 (5/6) User's Initial Settings (Function Program)

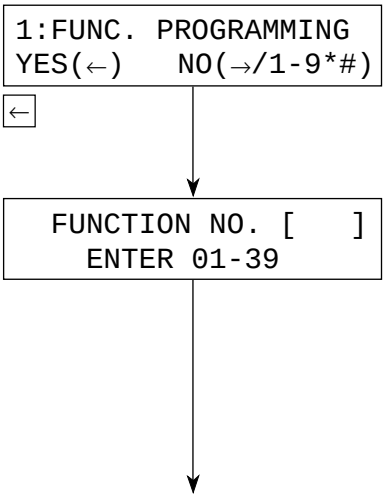
P.F. No.	Item	Specifications
28	Toner save	Determine whether toner saving is to be performed furing fax printing. When a LAN/PC printer is used, this setting is ignored and the command from the host is executed. ON(Toner saving performed)/OFF(Toner saving is not performed)
29	CNG Count	When T/F, TAD, or Parallel pickup is operatimg in CNG signal detection processing, this setting can be shifted to the facsimile reception mode at the time of number of CNG signal detedction times are equal to the set values. 1 - 5 (in one-tray steps) • Selection is skipped over when the ISDN board is mounted (sellection allowed if SERVICE BIT = ON).
30	600 DPI FAX TX	Set the operation when EX.FINE is selected for G3 transmission. ON: 600 DPI/300 DPI/15.4, ℓ/mm are capable. OFF: 300 DPI/15.4, ℓ/mm are capable.
31	ISDN Dial Mode	Determine whether G4 communication is to be performed by calling a signal remote machine by pressing ten-keys when an G4 option is mounted. G3 MODE(G3 communication)/G4(G4 communication) • This setting cannot be made when an G4 option board is not provided.
32	Speech Receive	Determine whether the incoming call is answered when the information transmission capacity instracted by the network is voice transmission. ON(Answered)/OFF(Not answered) • This setting cannot be made when G4 option board is not provided.
33	OPTION I/F MODE	Select the function for when a 1284 option is installed. MFPI: “MFPI” Mode. I/F applied with a traditional MFPI protocol. SCN.: “Flatbed Scanner” Mode. Flatbed Scanner connection and Download Print connected directly to a PC. NET.: “Download Print (through Network Server)” Mode. Download Print via a Network Server. * Capable of setting only when installed with a 1284 option. * Flatbed related functions are disabled when MFPI is selected. * The difference between SCN. and NET. is only for handling data that is determined as text code (discarded when SCAN. is selected but prints corresponding characters when NET. is selected), however, Flatbed Scanner will operate in either settings. * After changing the setting of this function, you must reboot a machine.

Table 2.8 (6/6) User's Initial Settings (Function Program)

P.F. No.	Item	Specifications
34	Paper Size Check	Sets to check or not the recording paper size specified by the command that set by the terminal for PC printing in Download Print Mode. ON(Checked)/OFF(Not checked) • The operation of the machine when paper size differs is as follows: ON: Paper request appers just before printing and recording paper size jam is verified after activation of printing. OFF: Paper request does not appers just before printing and recording paper size jam is verified after activation of printing. ***Note:*** Setting is disabled when OPTION I/F MODE is MFPI.
35	Print Job T.O.	Sets to interrupt printing when job-end command cannot be detected within the set time to store the data received from Centro I/F in print buffer for PC printing in Download Print Mode. Also this setting applies to the reception from a Flatbed Scanner, where both for Copy/FAX TX, the setting takes on the value of time to any interruption of receive data at some midpoint in a page. 5SEC/30SEC/5MIN ***Note:*** Setting is disabled when OPTION I/F MODE is MFPI.
36	FLATBED TX MODE	Set the default resolution upon FAX TX when connected with a Flatbed Scanner. STD (8 × 7.7 transmission). /FINE (300 × 300DPI transmission) * Capable of setting only when a 1284 option is installed. * Setting is disabled when OPTION I/F MODE = ”MFPI”.
37	FLATBED TX T.O.	Set the T.O time for data reception standby upon FAX TX when connected with a Flatbed Scanner. OFF/30 SEC/1 MIN * Capable of setting only when a 1284 option is installed. * Setting is disabled when OPTION I/F MODE = ”MFPI”.
38	HALF SIZE SCAN.	Set whether to discard the bottom half of the read data received by the Flatbed Scanner. ON: Discard / OFF: Does not discard. * Capable of setting only when a 1284 option is installed. * Setting is disabled when OPTION I/F MODE = ”MFPI”.
39	AUTO TRAY SW.	Set whether to print by automatically switching from a tray to the other one when running out of recording paper in the first tray during printing data from a PC. * Capable of setting only when both a 1284 option and a 2nd tray are installed. Setting values ON (Switch)/OFF (Not switch)

2.2.1.5 User's Functions Example

Note: The fonts displayed on the LCD operation panel may differ from fonts written this manual.

Operations:	**The display shows:**
• To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode. (In case of no message in memory)	
• Press ← key.	
• Enter two-digit function number, then the display will show the set item corresponding to the number entered. If you want to set up all or several items starting with 01, then enter 01.	

To an individual setting item.
(See Table 2.10)

Table 2.10 (1/4) User's Functions

Tap No.	Name of Function	The Display Shows
0 1	Message confirmation report (Single location)	01:MCF(SINGLE-LOC.) [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 2	Message confirmation report (Multiple locations)	02:MCF (MULTI-LOC.) [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 3	Error report	03:ERR. REPORT(MCF.) [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 4	Image in MCF.	04:IMAGE IN MCF. [X] YES(←) NO(→) → Setting (Toggle) OFF → PART → WHOLE
0 5	Sender ID	05:SENDER ID [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
0 6	Monitor volume	06:MONITOR VOLUME [X] YES(←) NO(→) → Setting X: OFF → LOW → MID. HIGH ← H-MID.
0 7	Buzzer volume	07:BUZZER VOLUME [X] YES(←) NO(→) → Setting (Toggle) X: MID → HIGH → LOW
0 8	Closed network	08:CLOSED NETWORK [X] YES(←) NO(→) → Setting X: T/R → RX → OFF
0 9	TX mode default	09:TX MODE DEFAULT YES(←) NO(→) → Setting RESOLUTION & ORIGINAL Note 1:
1 0	Telephone/fax automatic switchover timer	10:T/F TIMER PRG. [X] YES(←) NO(→) → Setting (Toggle) X: 20SEC ⇆ 35SEC
1 1	Ring response time	11:RING RESPONSE [X] YES(←) NO(→) → Setting X: 1RING → 05SEC → 10SEC → 15SEC → 20SEC Note 2:
1 2	Distinctive ring	12:DISTINCTIVE RING [X] YES(←) NO(→) → Setting (Toggle) X:OFF → ON → SET Note 2:

Table 2.10 (2/4) User's Functions

Tap No.	Name of Function	The Display Shows
1 3	Paper size	13:PAPER SIZE [X] YES(←) NO(→) → Setting X: A4 → LET → LGL 13 → LGL 14
1 4	User language	14:USER LANGUAGE [X] YES(←) NO(→) → Setting Note 5 X: ENG. → (Other) → (Other) → •••
1 5	Incoming ring	15:INCOMING RING [X] YES(←) NO(→) → Setting (Toggle) X: OFF → ON → DRC
1 6	Remote receive	16:REMOTE RECEIVE [X] YES(←) NO(→) OFF 00 → 11 → 22 → 33 → 44 → 55 → 66 → 77 → 88 → 99 ## ← **
1 7	Memory and feeder selection	17:MEM/FEEDER SW. [X] YES(←) NO(→) → Setting X: MEM. ⇆ FEED.
1 8	Power save mode (not available for ODA version)	18:POWER SAVE MODE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
1 9	ECM function	19:ECM FUNCTION [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 0	Remote diagnosis	20:REMOTE DIAGNOSIS [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 1	PC/FAX switch	21:PC/FAX SWITCH [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON

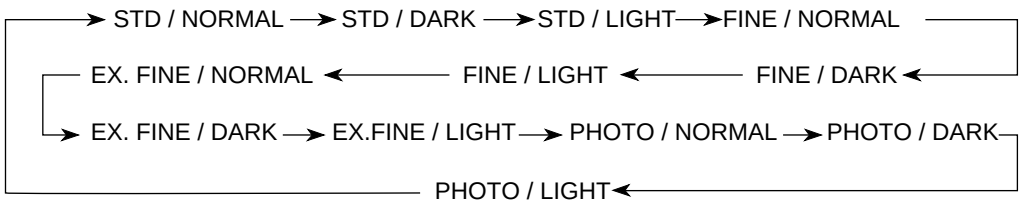
Table 2.10 (3/4) User's Functions

Tap No.	Name of Function	The Display Shows
2 2	No toner memory reception	22:NO TONER MEM. RX [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 3	Memory full save	23:MEM FULL SAVE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 4	Continuous tone	24:CONTINUOUS TONE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 5	Instant dialing	25:INSTANT DIALING [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 6	Restricted access	26:RESTRICT ACCESS [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 7	Width reduction	27:WIDTH REDUCTION [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 8	Toner save	28:TONER SAVE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
2 9	CNG count	29:CNG COUNT [X] YES(←) NO(→) Note 3 → Setting (Toggle) X: 1 → 2 → 3 → 4 → 5
3 0	600 DPI FAX TX	30:600 DPI FAX TX [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON
3 1	ISDN DIAL MODE	31:ISDN DIAL MODE [X] YES(←) NO(→) Note 4 → Setting (Toggle) X: G3 ⇆ G4

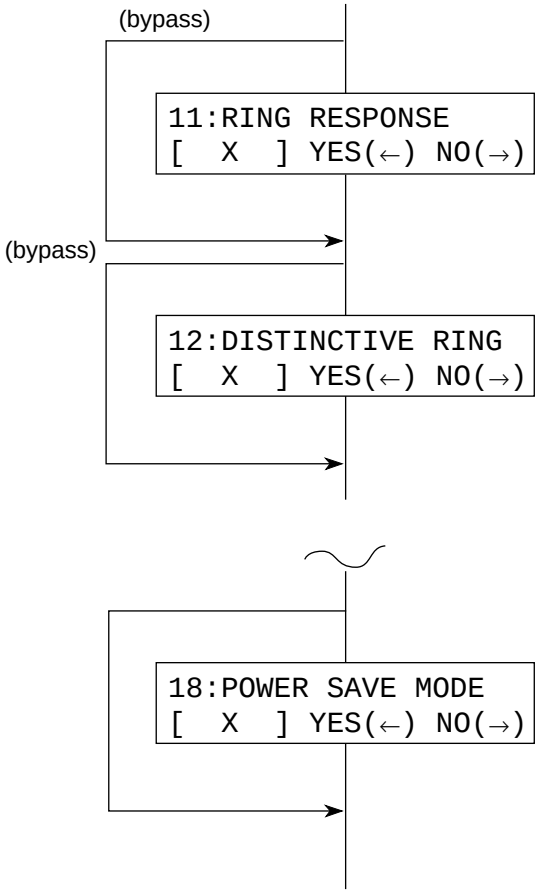
Table 2.10 (4/4) User's Functions

Tap No.	Name of Function	The Display Shows
3 2	Speech receive	32:SPEECH RECEIVE [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON Note 4
3 3	OPTION I/F mode	33:OPTION I/F MODE [X] YES(←) NO(→) → Setting (Toggle) X: MFPI → SCN. → NET. Note 6
3 4	Paper size check	34:PAPER SIZE CHECK [X] YES(←) NO(→) → Setting (Toggle) X: OFF ⇆ ON Note 7
3 5	Print job time out	35:PRINT JOB T.O. [X] YES(←) NO(→) → Setting (Toggle) X: 5 sec→30 sec →5 min Note 7
3 6	FLATBED TX mode	36:FLATBED TX MODE [X] YES(←) NO(→) → Setting (Toggle) X: STD ⇆ FINE Note 7
3 7	FLATBED TX time out	37:FLATBED TX T.O. [X] YES(←) NO(→) → Setting (Toggle) X: OFF→ 30 SEC → 1 MIN Note 7
3 8	HALF SIZE SCAN	38:HALF SIZE SCAN [X] YES(←) NO(→) → Setting (Toggle) X: ON ⇆ OFF Note 7
3 9	AUTO TRAY SW	39:AUTO TRAY SW [X] YES(←) NO(→) → Setting (Toggle) X: ON ⇆ OFF Note 8

Note 1: RESOLUTION & ORIGINAL of Tx mode defult setting can be selected by using [→] key.



2: When the service bit is set to "off" and the corresponding bit of XPARA of national code is set to "off", Ring response and/or Distinctive ring is bypassesd as follows:



3: For G4 option, skip this step.
This step is valid when Service Bit = ON.

4: Capable of setting when a G4 option is installed.

5: Capable of selecting from up to five countries. However, this is in accordance with the number of languages that are actually installed (max. five countries).

6: Capable of setting only when a 1284 option is installed.

7: Capable of selecting when the Option I/F mode is SCN or NET.

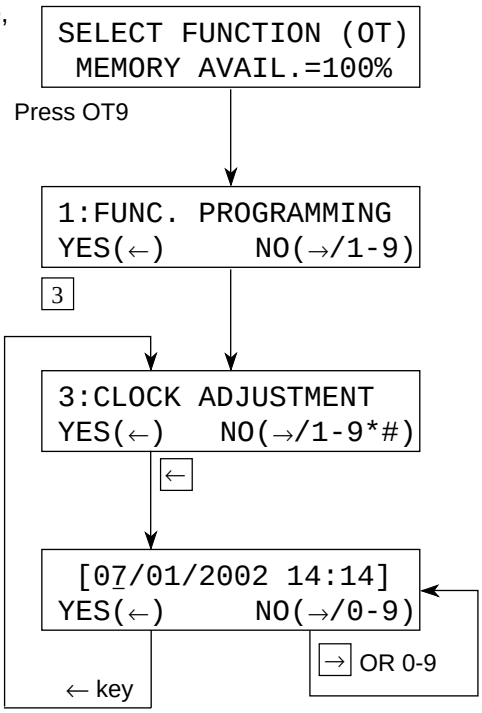
8: Capable of setting only when both a 1284 option and 2nd tray are installed.

2.2.1.6 Clock Adjustment

Operations:

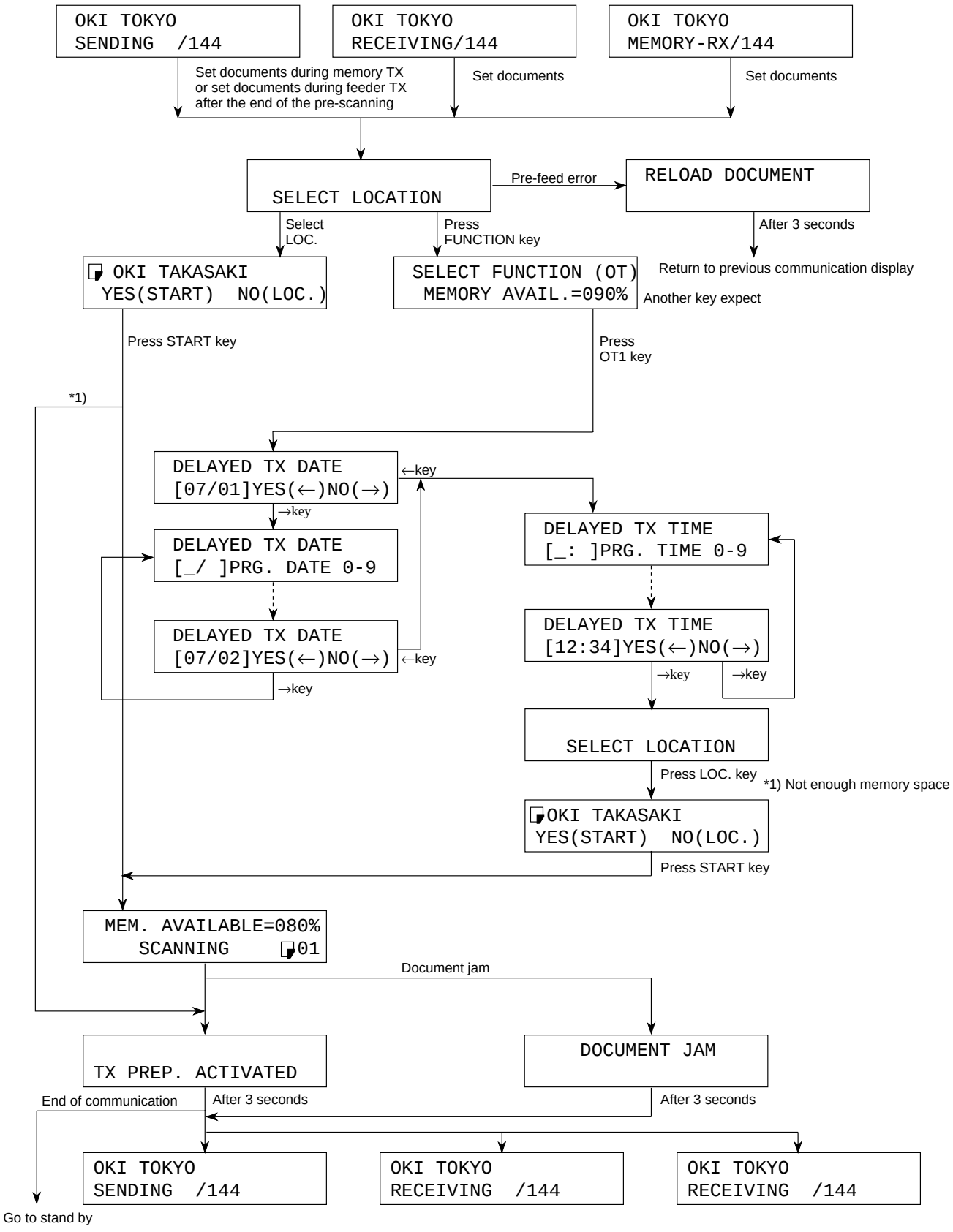
- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode. (In case of no message in memory)
- Enter 3 using the ten-key pad.
- Press [←] key.
- Enter date and time by using the ten-key pad (0 to 9, *, # keys).

The display shows:



Note: Data outside 1996 to 2095 cannot be registered.

2.2.1.7 Dual Access Operation



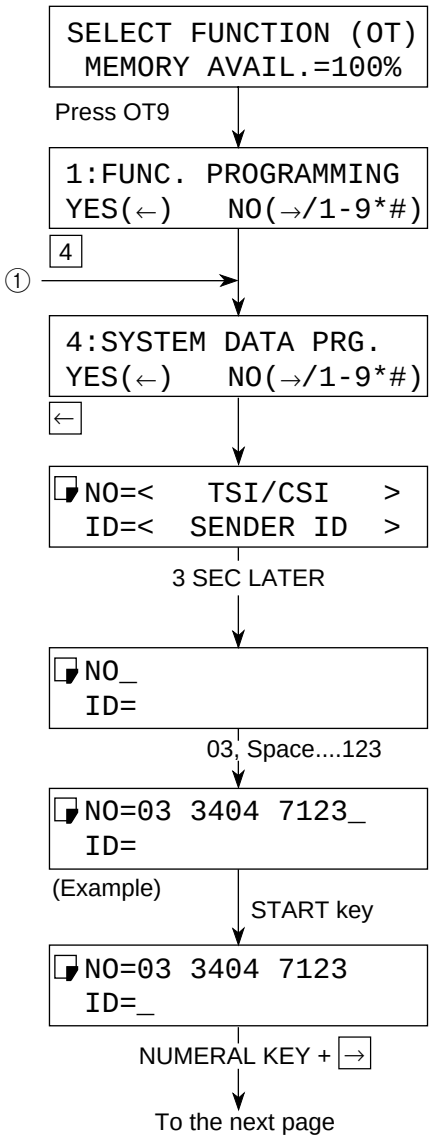
2.2.1.8 System Data Programming

- TSI/CSI (Defalut: Blank)
- Registration of sender ID (Defalut: Blank)
- Registration of telephone number for the call-back message (Defalut: Blank)

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode.
  (In case of no message in memory)
- Enter 4 using the ten-key pad.
- Press [←] key.

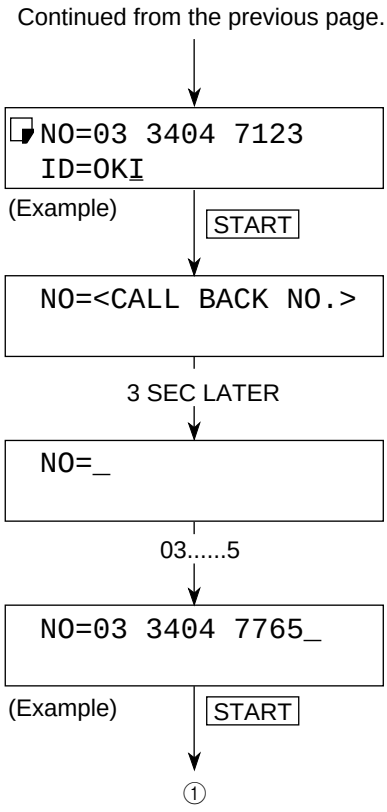
The display shows:



Note 1: Use the UNIQUE key to input special symbols.
2: When 16 digits or more is registered, the high-order 16 digits are displayed (TSI, CSI, ID or CBM)

Operations:

The display shows:



- Press START key.

- Press START key.

2.2.1.9 Dial Parameters Settings

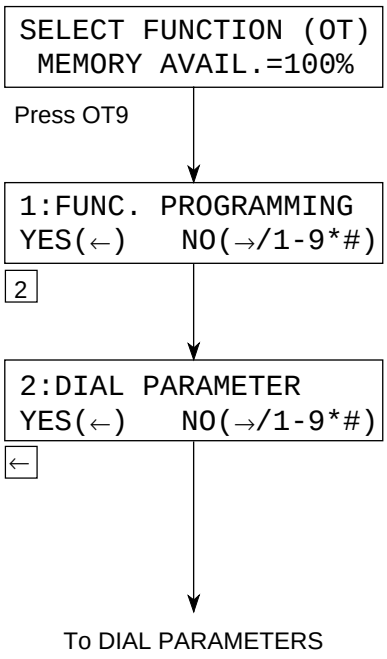
(1) Procedure

The following shows the case in which the service bit is on.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 9 in the standby mode. (In case of no message in memory)
- Enter 2 using the ten-key pad.
- Press [←] key.

The display shows:



*1 Not all of the following dial parameters are released to the users (depending on National codes and if the Service bit is OFF)

The display shows:

Continued from the previous page.

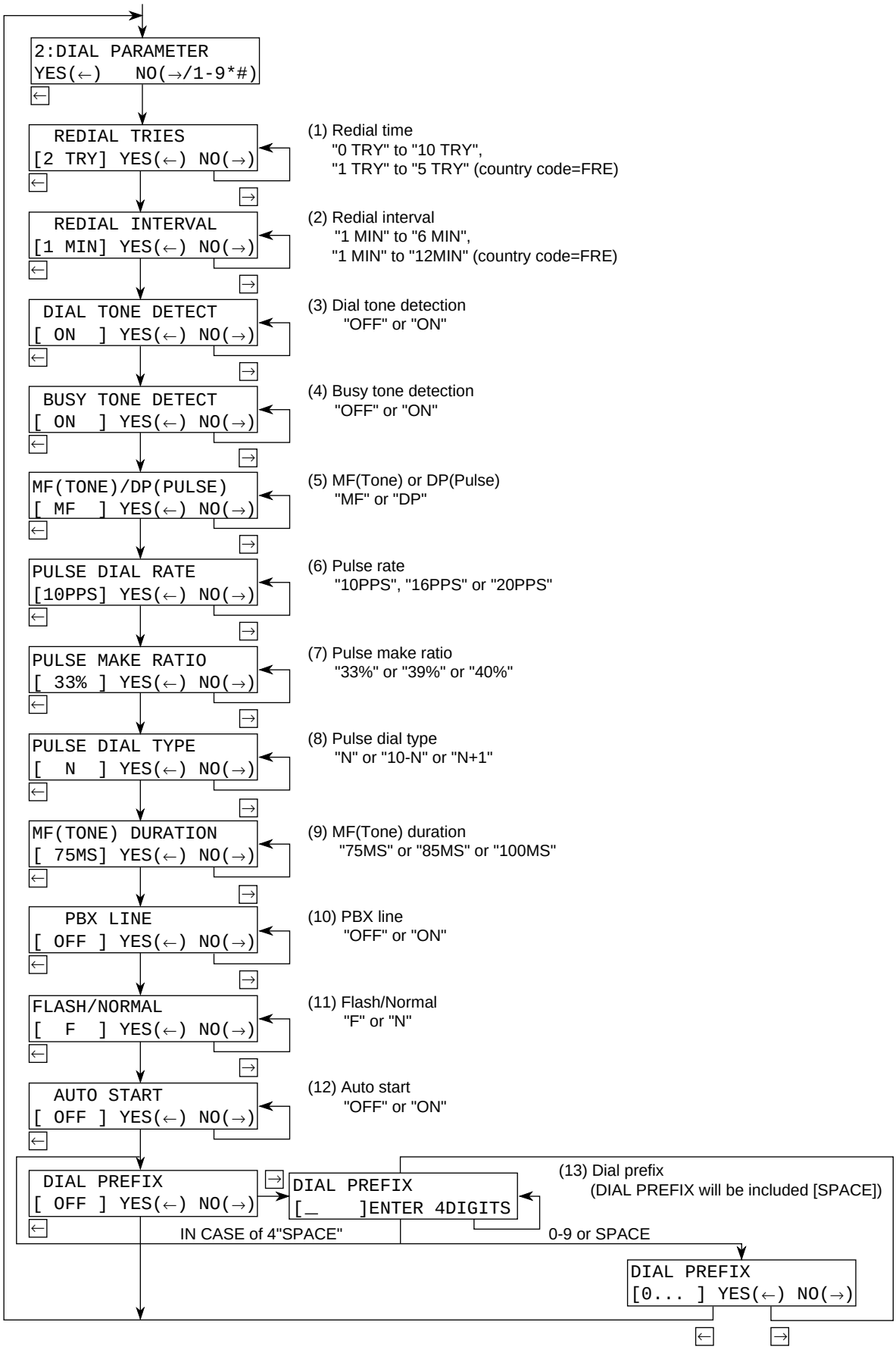


Table 2.13 Dial Parameters Settings

No.	Item	Specifications
	Dial parameters	
01	Redial tries	Switches on the re-dial times to meet the regulations of the installed country. 0 to 10 tries (in one-try steps) 1 to 5 tries for FRE.
02	Redial interval	Switches on the re-dial intervals to meet the regulations of installed country. 1 to 6 minutes (in one-minute steps) 1 to 12 minutes for FRE.
03	Dial tone detect	Selects the dial tone detection. ON/OFF selectable. ON: Enable OFF: Disable
04	Busy tone detect	Selects the busy tone detection. ON/OFF selectable. ON: Enable OFF: Disable
05	MF (TONE) or DP (Pulse)	Selects dialling by multi-frequency or dial pulse.
06	Pulse dial rate	Selects the dialling pulse rates for the line. 10 pps/16 pps/20 pps selectable.
07	Pulse make ratio	Selects pulse dial rate. 33%/39%/40%
08	Pulse dial type	Selects pulse dial type. Normal(N)/10-N/N+1
09	MF (Tone) duration	Selects MF (Tone) duration. 75/85/100 ms selectable.
10	PBX line	Selects PBX line. ON/OFF selectable. ON: PBX line OFF: PSTN
11	Flash/Normal	Selects the PBX type to meet the exchange requirements. NORMAL/FLASH selectable. (PBX line origination types)
12	Auto start	Enables or disables the function of dialing without pressing the START key in one-touch dial and 3-digit auto dial modes. ON: Enable OFF: Disable
13	DIAL PREFIX	Prefix dialing digits with which PBX connects the fax to the public line. OFF/max. 4digit(s) selectable. Digit: Enable OFF: Disable

2.2.1.10 Off-line Tests

(1) Purpose

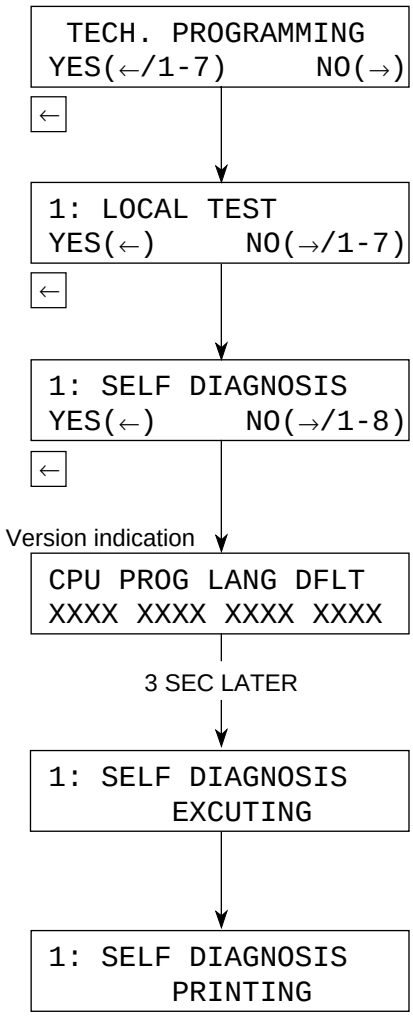
Activate self-diagnosis which includes:
- Print test
- CPU-ROM version printing
- CPU-RAM check
- PROG version printing
- LANGUAGE version printing
- DEFAULT version printing
- RAM check
- RAM check (memory board: optional)
- Data of each option board.

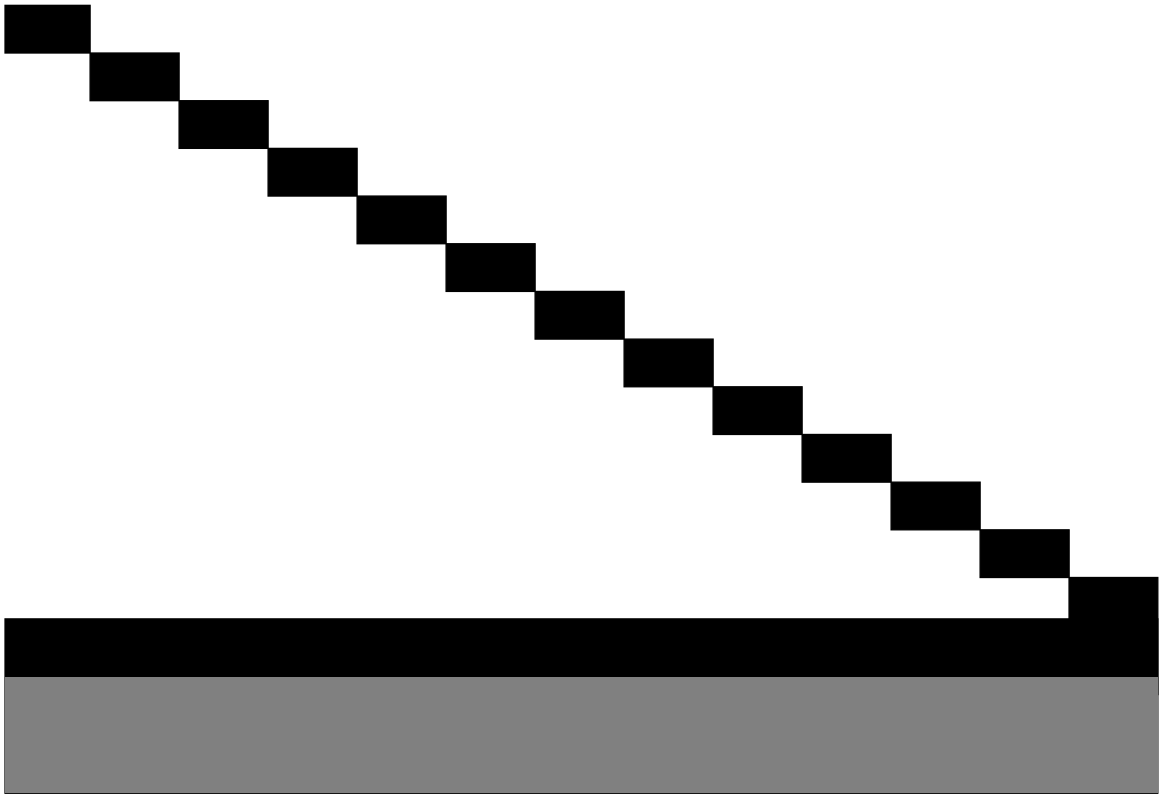
(2) Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in memory)
- Press [←] key.
- Press [←] key.
- Press [←] key for cheking and test printing. (An example of printed data is shown in Figure 2.7)

The display shows:





```
CPU-ROM  VERSION  aaaa
         HASH     OK   hhhh
CPU-RAM           OK
PROGRAM  VERSION  aaaa
         HASH     OK   hhhh
LANGUAGE VERSION  aaaa
         HASH     OK   hhhh
DEFAULT  VERSION  aaaa
         HASH     OK   hhhh
RAM1              OK
RAM2              OK
DEFAULT TYPE      01   03/03/2002  12:00
MODEM    VERSION  hhhh
1284 BOARD
DEVICE ID         MFG:OKI DATA CORP;
                  MDL:FX-060VP;
                  DES:OKI FX-060VP;
OPT-RAM  4M       OK
ISDN BOARD        OK
CPU-ROM  VERSION  aaaa
         HASH     OK   hhhh
CPU-RAM           OK
PROGRAM  VERSION  aaaa
         HASH     OK   hhhh
RAM      2M       OK
DPRAM    2K       OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Figure 2.7 Printed Data of Self-diagnosis Print Test (Example)

2.2.1.11 On-line Tests

1. Transmission

(1) Load documents

(2) Make sure that

- The loaded documents are fed in automatically.
- The STD and NORMAL lamps light.
- The display shows SELECT LOCATION.

(3) Dial the telephone number of the remote machine by the ten-key pad.

(4) Make sure that the telephone number of the remote machine is shown on the display.

(5) Press the START button.

(6) Typical message transmission flow is described in Figure 2.8.

2. Reception

(1) Use another machine for dialling.

(2) Make sure that

- The display shows AUTO REC. START.
- The message is automatically received.

(3) Typical message reception flow is described in Figure 2.9.

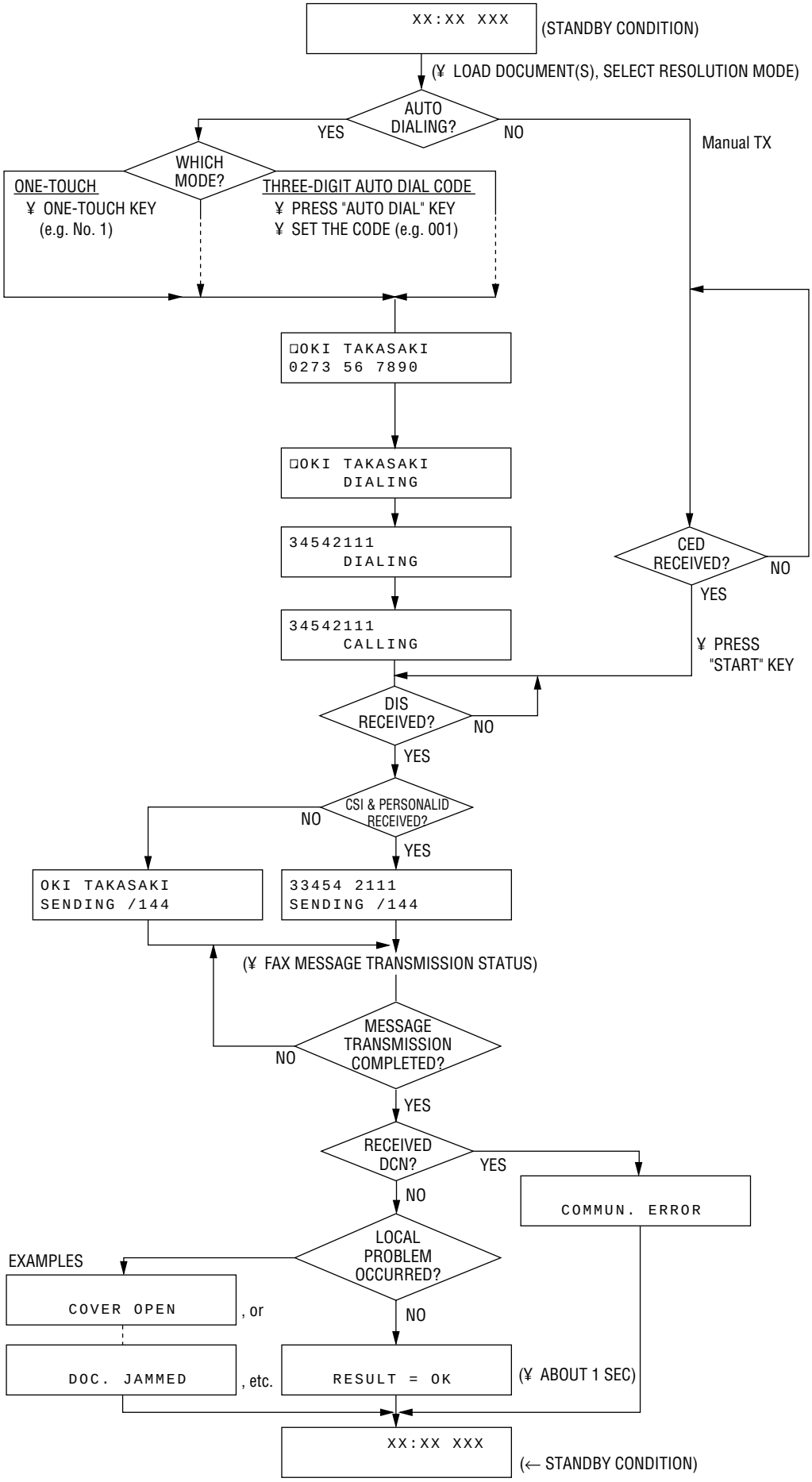


Figure 2.8 Typical Transmission Flow

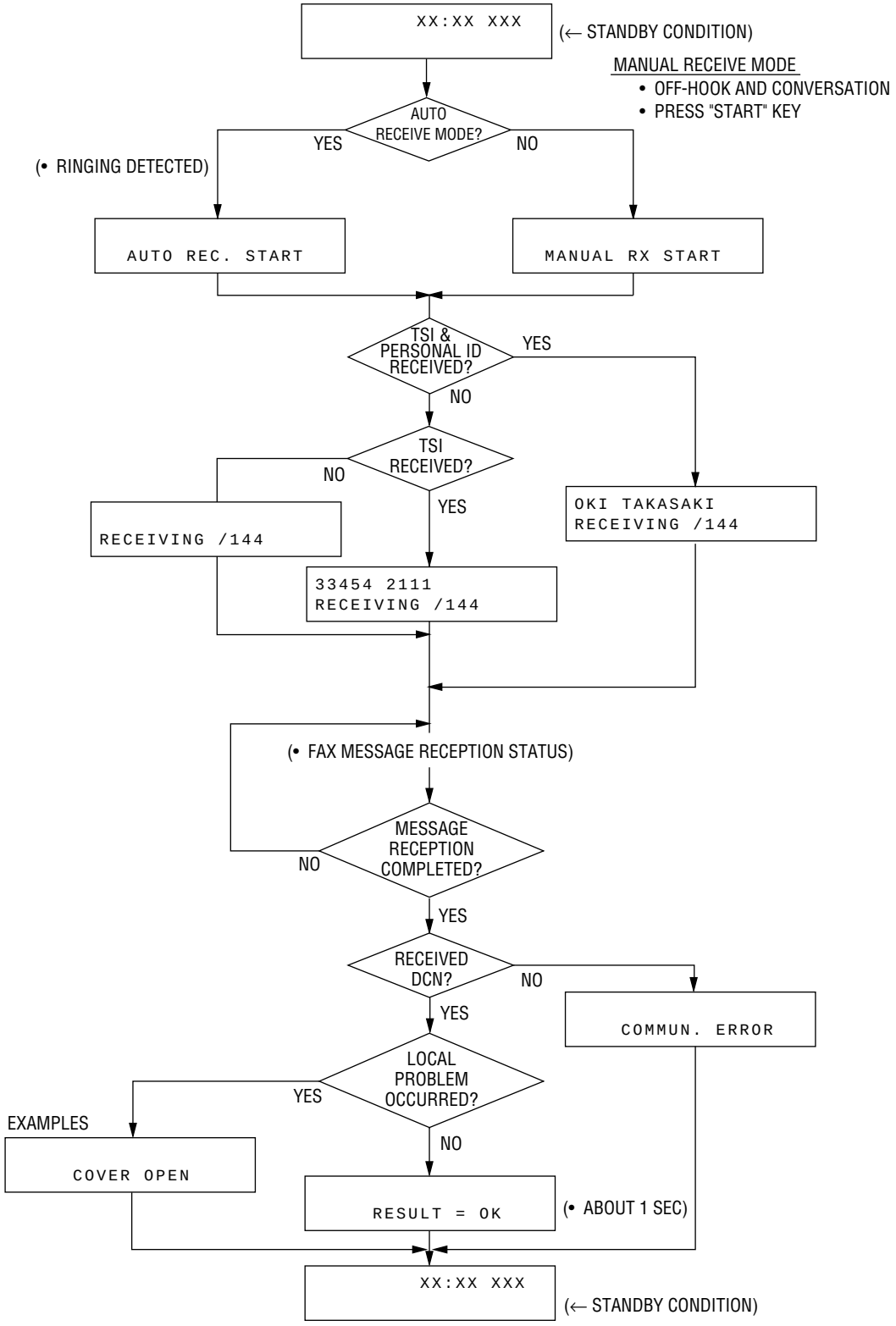


Figure 2.9 Typical Reception Flow

2.3 Installation of Optional Units

1) Items
   - Memory board
   - PC interface board
   - Telephone handset
   - Second paper cassette unit

2) Procedure
   - Turn the facsimile power switch OFF and remove the AC power cord.

     Note: Unplug the AC power cord from the wall outlet first and then from the facsimile.

   - Do not remove unnecessary parts.
   - Since screws and small parts are likely to be lost, they should temporarily be attached to their original positions.

1. Instllation of the memory board

- In FX-060VP, MEM, 2 or 4MB memory board can be mounted on to the connector CN13 of M60 board.

Remove Rear Cover.
Remove the rear cover by removing the two screws (S1) and (S2).

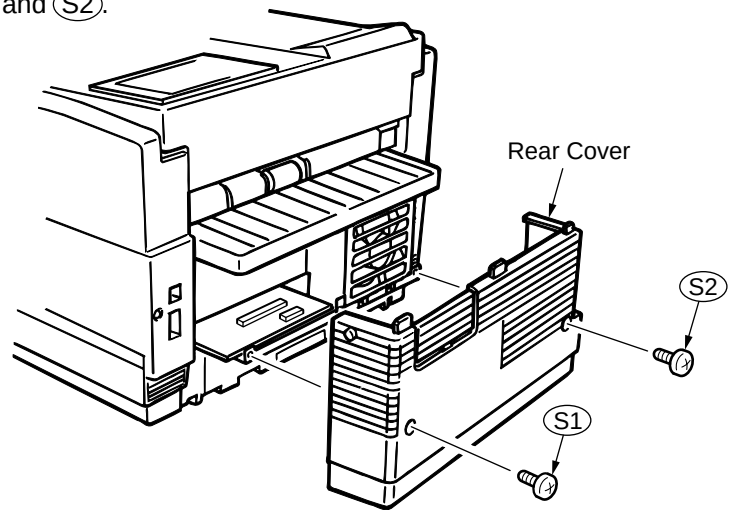


Figure 2.12

Install Memory Board:
First, install the memory board on to the connector CN13 of V60 board.

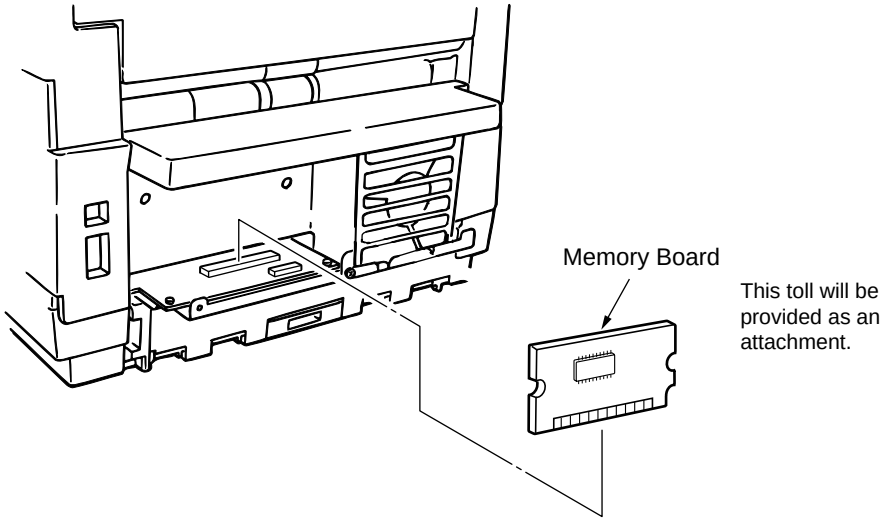


Figure 2.13

Note: Fit the fixing hooks at anchor positions on the cassette guide, after that, lift the rear cover slightly and push it inward.
Tighten the two screws (S1) and (S2) .

2. Installation of CT2 (PC interface) board or ICP (ichip-LAN) board

Remove Rear Cover.
Remove the rear cover by removing the two screws (S1) and (S2).

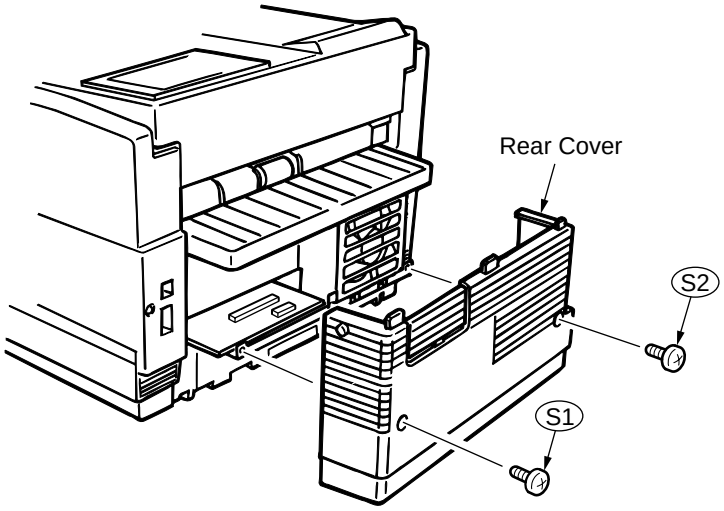


Figure 2.14

Install CT2 board or ICP board.
First, install CT2 board or ICP bpard on to the connector CN12 of V60 board, and then tighten the two screws to the separation plate.

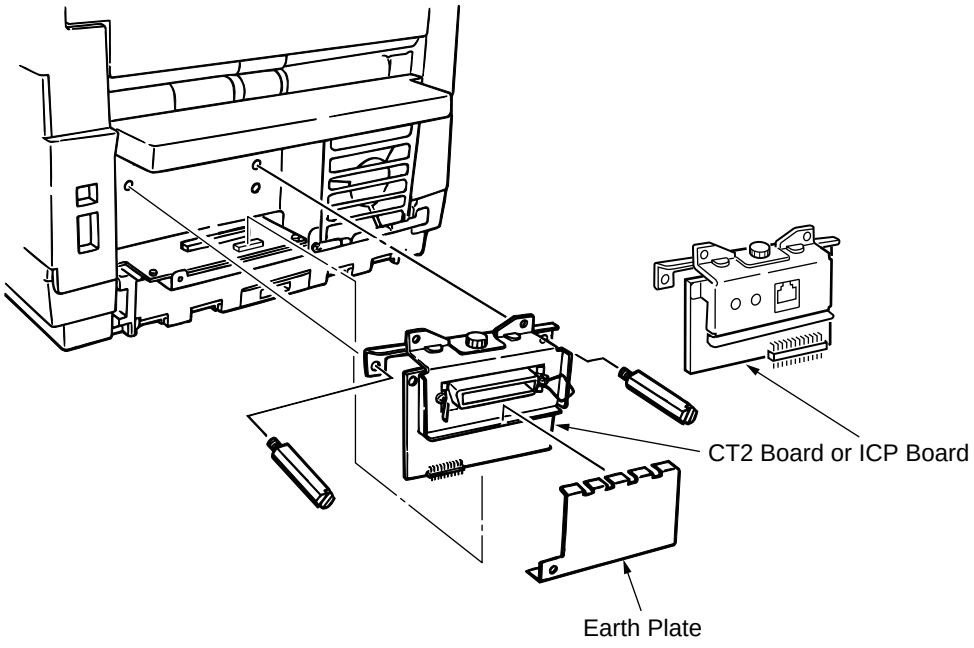


Figure 2.15

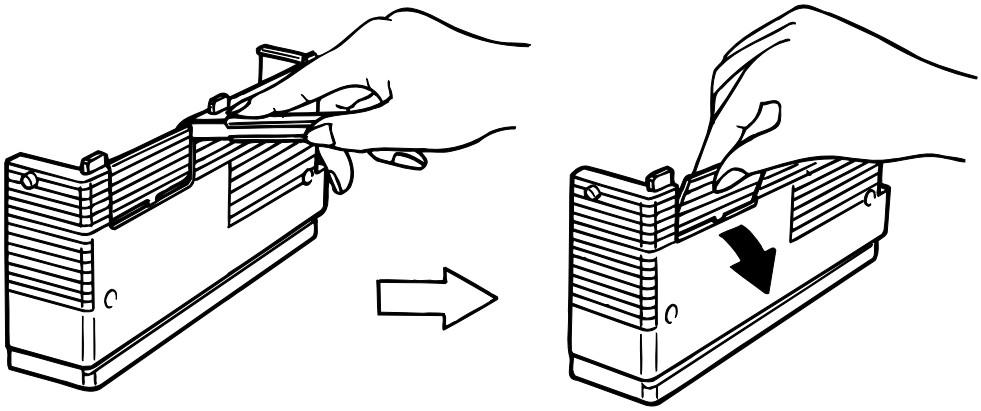


Figure 2.16

a) Insert the tip of a cutter or Nipper between the mold of Rear Cover and cut out it.

Note: Be careful not to rotate the cutter or Nipper, since this can cause scratching on the Rear Cover.

b) Grasp the mold of Rear Cover, and rotate it up and down until you can able to easily remove it.

3. Second Paper Cassette Unit

This item explains how to install the Second Paper Cassette Unit option.

Second Paper Cassette Unit installation

(1) Turn the facsimile power switch off and remove the ACpower cord.

Note: Unplug the AC power cord from the wall outlet first and then from the facsimile.

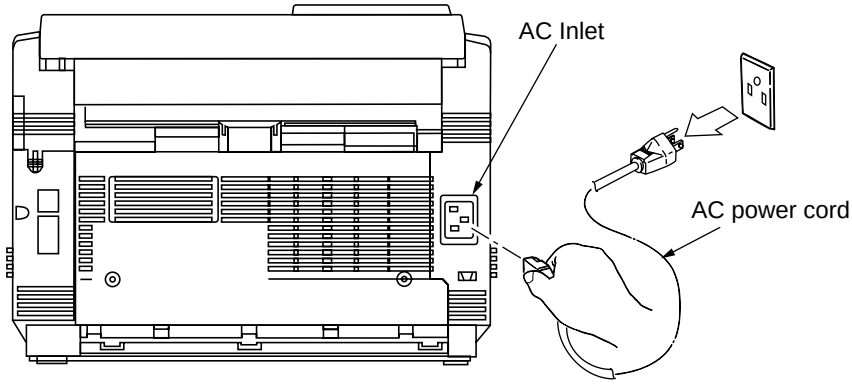


Figure 2.23

(2) Open the Manual Feed Guide.

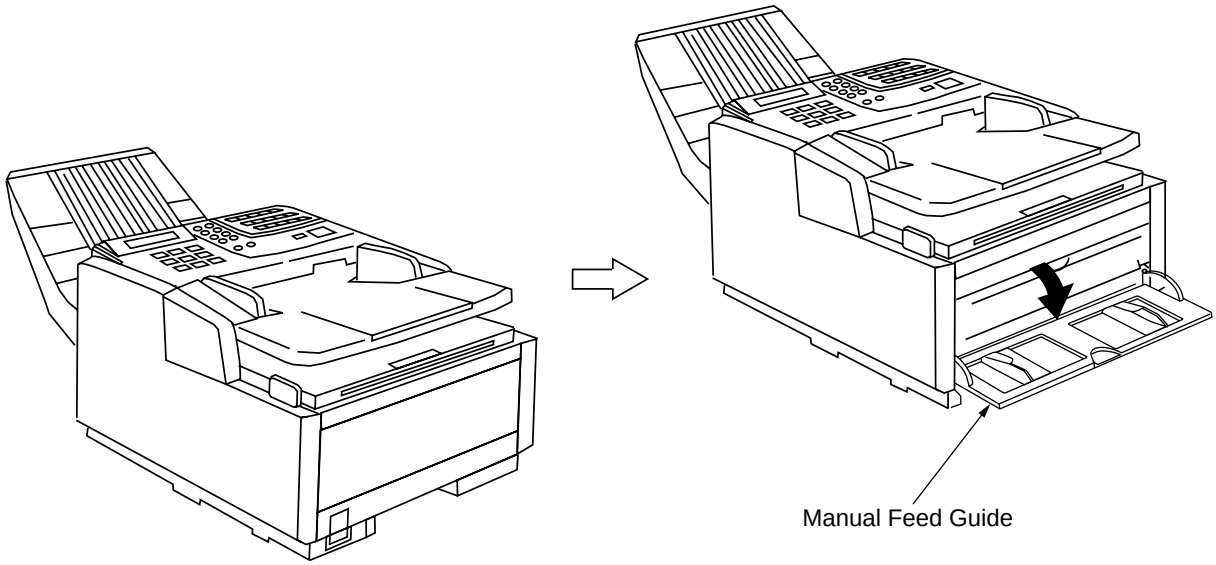


Figure 2.24

(3) Gently lower the facsimile on the Second Paper Cassette Unit.

Note: Make sure that the positioning boss of the Second Paper Cassette Unit fits into the 2 holes at the bottom of the facsimile transceiver main unit.

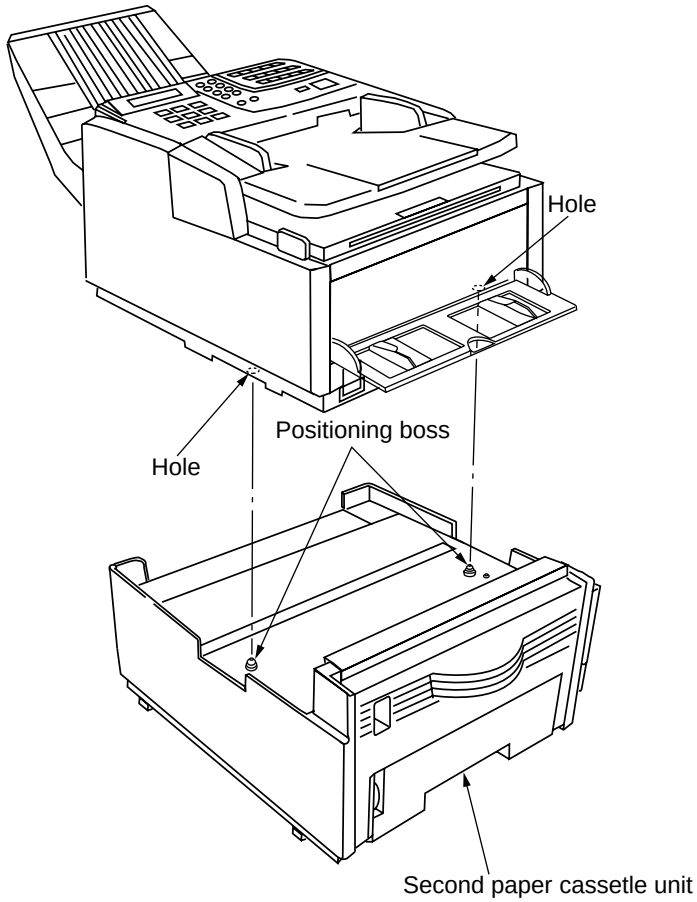


Figure 2.24

(4) Peel off the tape attached on the Second Paper Cassette Unit.
The Manual Feed Guide needs to be opened with the Second Paper Cassette Unit.

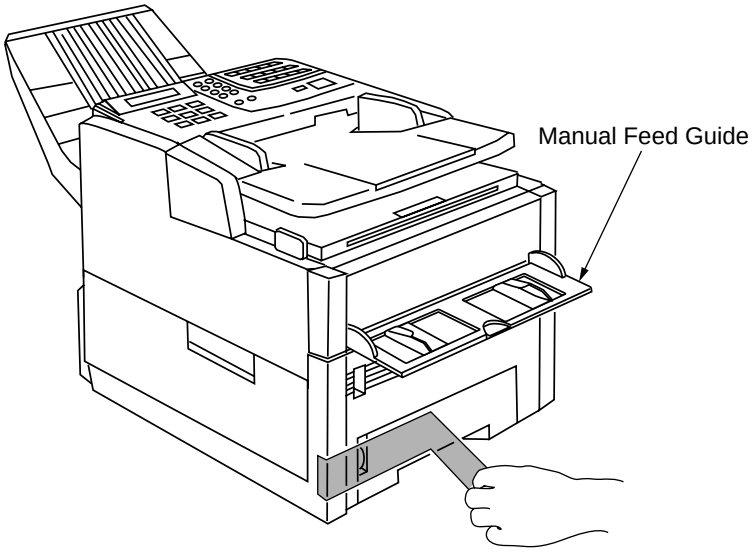


Figure 2.25

(5) Install the Second Paper Cassette. Approximately 500 sheets of recording paper (20-Ib bond) can be loaded.

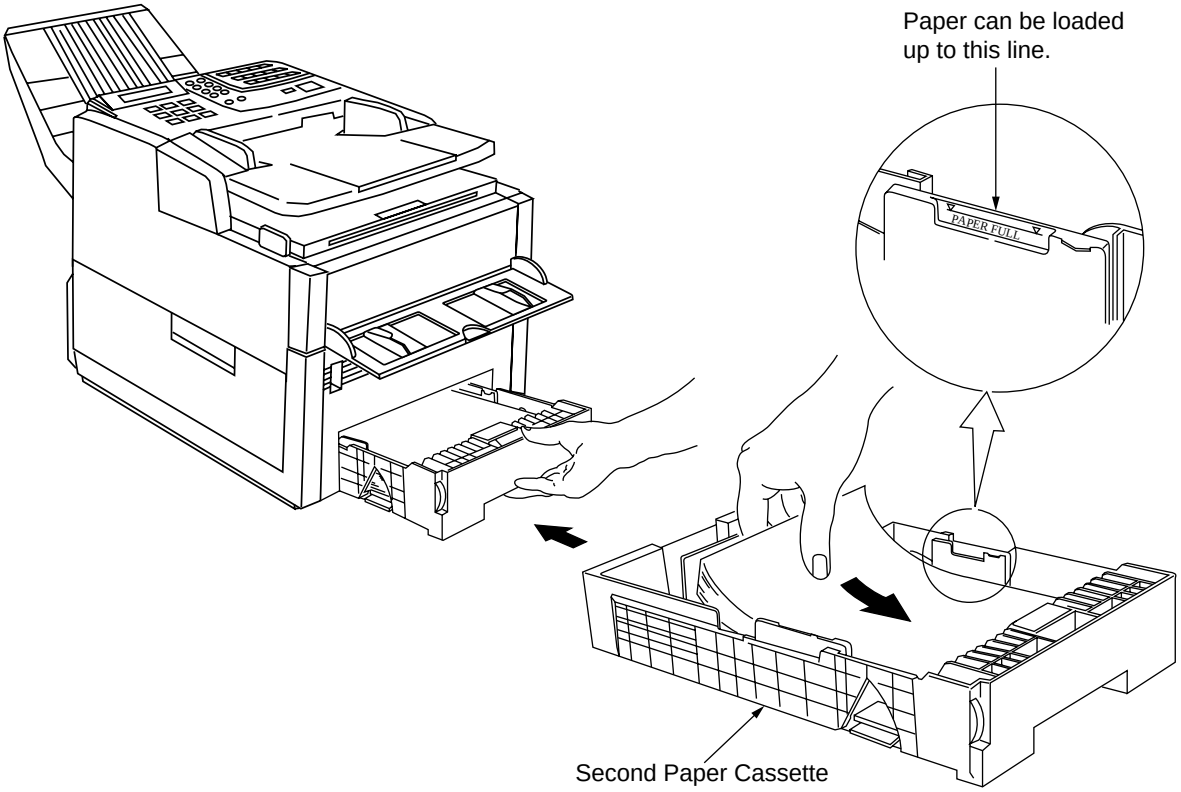


Figure 2.26

(6) Reconnect the power cord to the wall and the facsimile, and Turn the facsimile power on.

3. BRIEF TECHNICAL DESCRIPTION

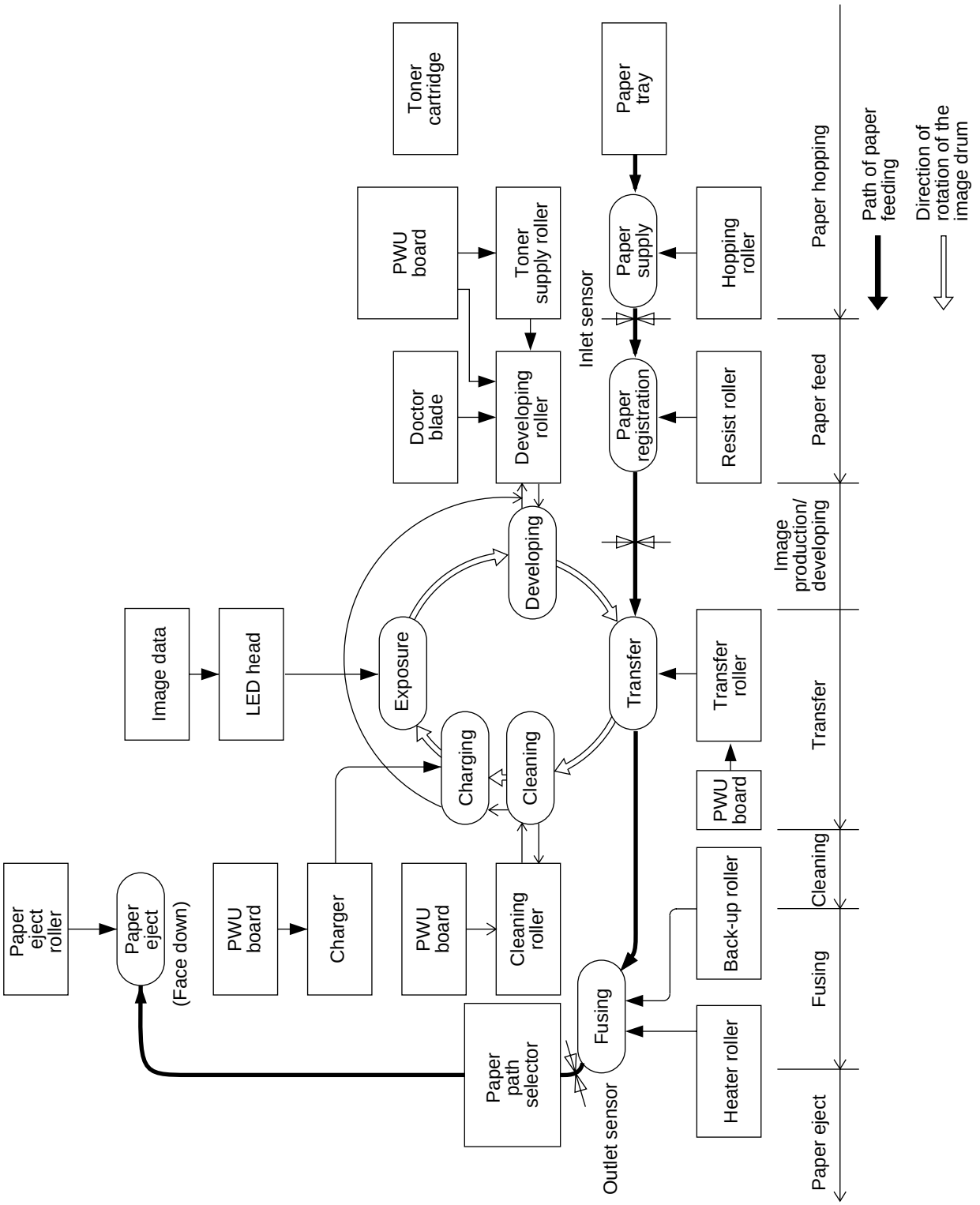
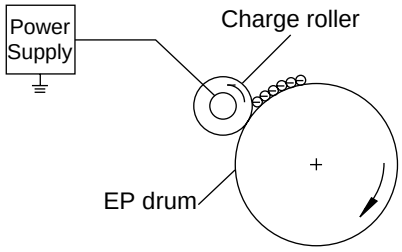
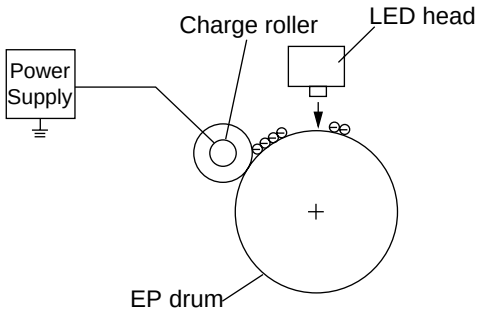
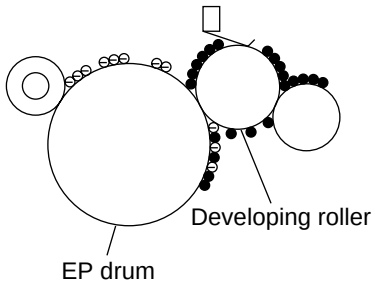


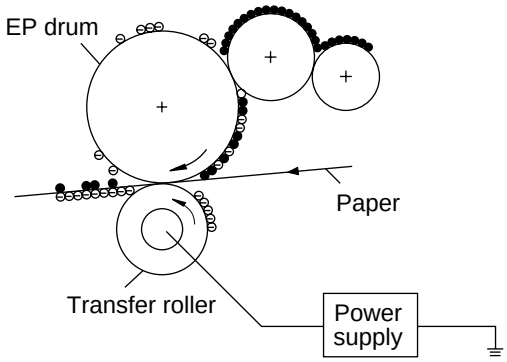
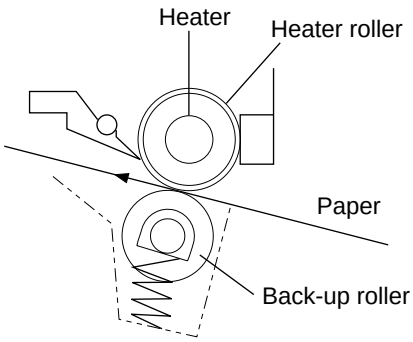
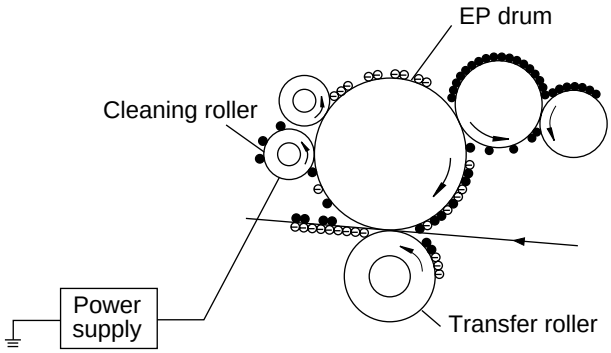
Figure 3.1 Electro-photographic Process Flow

3.1 Fundamentals of the Electro-Photographic Process

The electro-photographic process involves six sub-processes:
(1) Charging (2) Exposure (3) Development (4) Transfer (5) Fusing (6) Cleaning

Outline of each process is explained below.

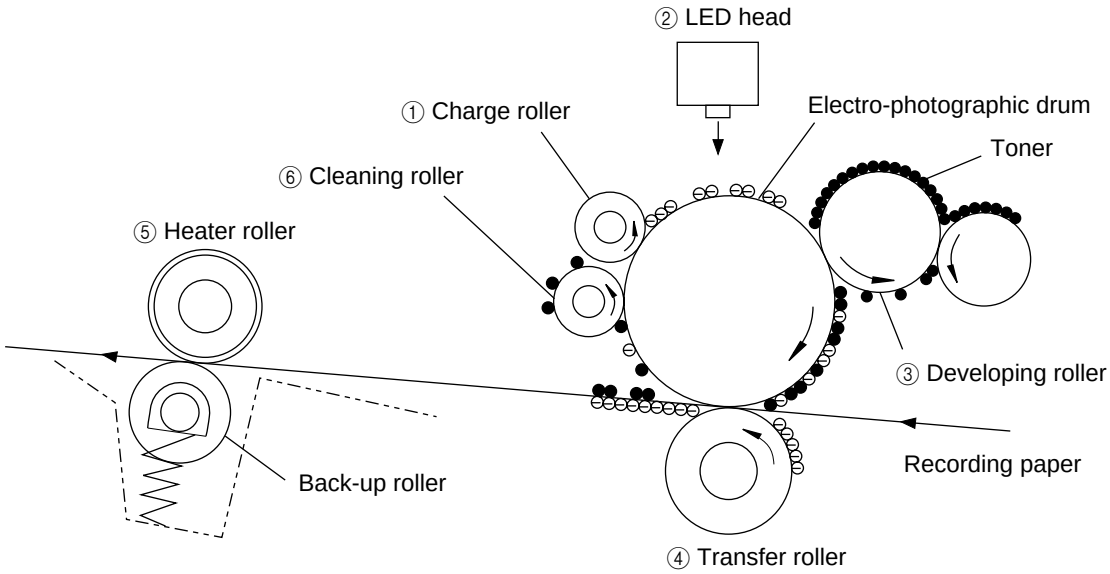
Process	Illustration	Description
1 Charging		The surface of the electro-photographic Image drum is uniformly charged with negative charges by applying a negative voltage to the charge roller. When the applied DC voltage exceeds a threshold value, charging of the drum begins.
2 Exposure		Light emitted from the LED head irradiates the negatively charged surface. The potential of the irradiated part of the Image drum surface is raised, so that an electrostatic latent image associated with the print image is formed.
3 Development		Toner is attracted to the exposed part (high-potential part) of the Image drum at the contact between the Image drum and the developing roller, making the electrostatic latent image visible. At the same time, the residual toner on

Process	Illustration	Description
4 Transfer		the Image drum is attracted to the developing roller by static electricity. The recording paper is placed over the Image drum surface and a positive charge, opposite in polarity to the toner, is applied to the reverse side of the paper from the transfer roller. The toner is attracted by the positive charge and is transferred to the paper. The toner charged negative that is attracted to the Image drum surface is transferred to the upper side of the recording paper by the positive charge on the lower side of the paper.
5 Fusing		The unfused toner image is fused on the paper under heat and pressure as it passes between the heater roller and the back-up roller.
6 Cleaning		Residual toner on the Image drum is attracted to the cleaning roller temporarily by static electricity on the Image drum surface.

3.2 Actual Electro-photographic Process

The electro-photographic process consists of six essential processes.

The following Figure 3.2 provides a general description.



* Process:

① : Charging
② : Exposure
③ : Developing
④ : Transfer
⑤ : Fusing
⑥ : Cleaning

Figure 3.2 Actual EP Process

3.3 Boards and Units

3.3.1 Boards and Units

The following three boards, Memory board (option), PC interface board (option) and three units constitute facsimile transceiver machine.

• Main control board	MCNT:	(V60_)
• Network control unit board	NCU:	(EN2, INU)*1
• Memory board (option)	MEM:	(MEM; 2/4/8MB)
• Internet FAX board *2	IFAX I/F:	(ICP)
• PC interface board (option)	Bi-Centro I/F:	(CT2)
• 2nd tray interface board (option)	2ND TRAY I/F:	(TQSB)
• Operation panel assembly unit	OPE:	(P60)
• Power supply unit	POW UNIT:	(120V/230V)
• Printer unit		

Figure 3.3 shows the related drawing of the facsimile transceiver.

Note: The contact image sensor and electromagnetically driven parts compose the so-called Scan Unit.

*1 EN2 : UK, France, EC countries
INU : US, Canada, Australia, New Zealand, Singapore, China, Malaysia, non-EC countries (Poland etc,)

*2 ICP board is optional except ODA version.

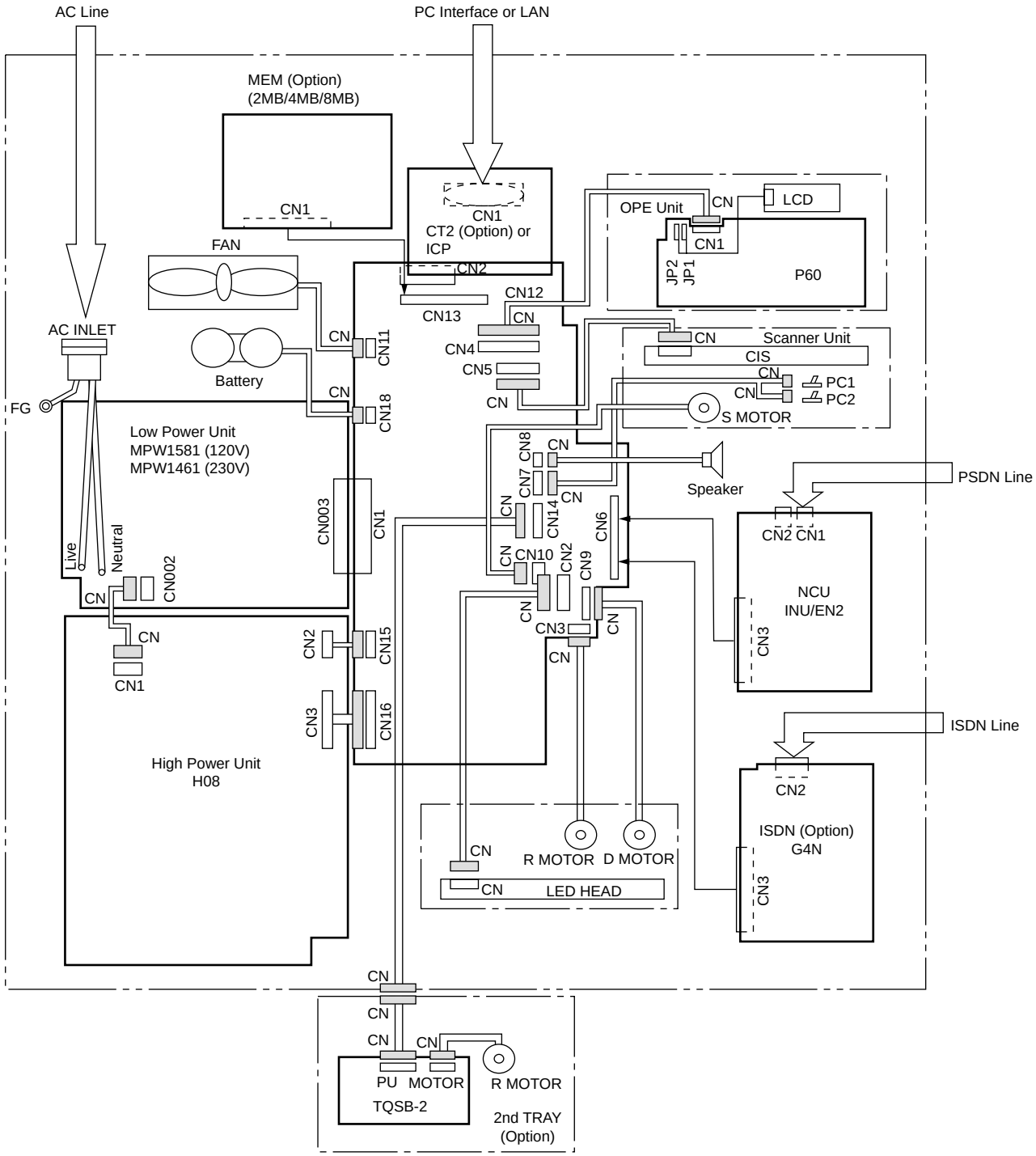
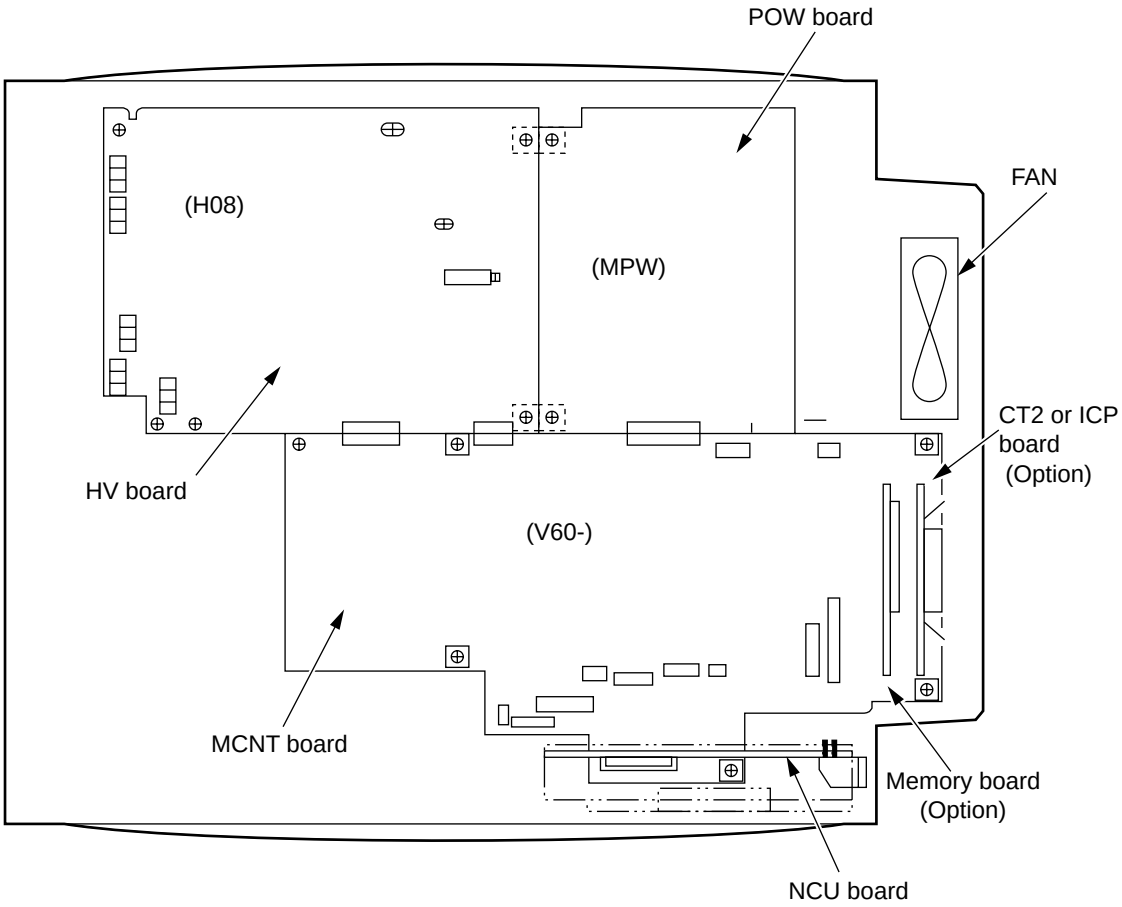


Figure 3.3 Related drawing

3.4 Overall Dimension and Mechanical Structure



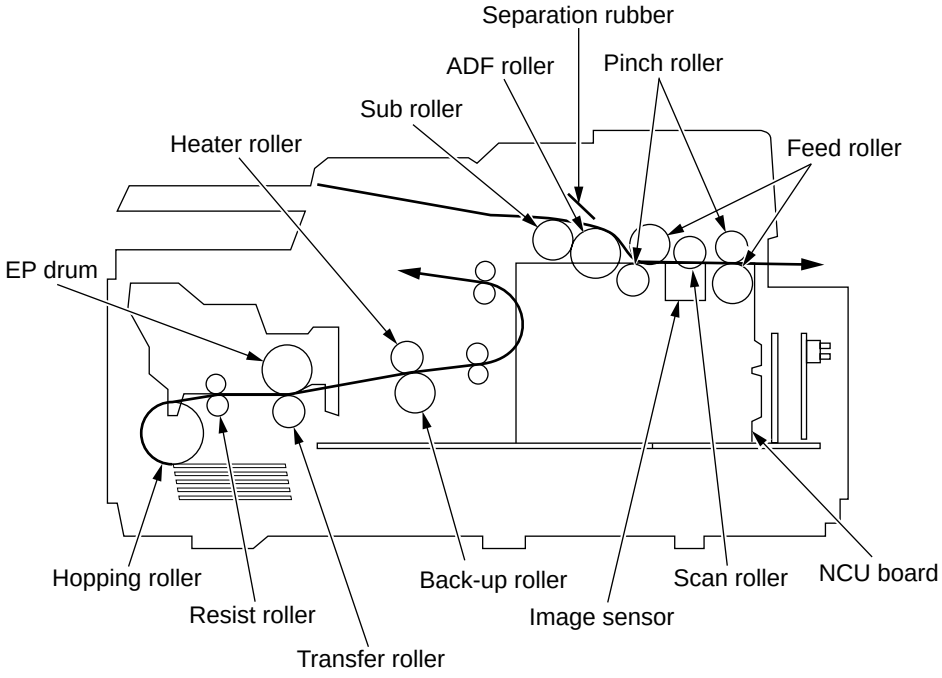


Figure 3.4 Overall Dimension and Mechanical Structure

4. MECHANICAL DISASSEMBLY AND REASSEMBLY

This chapter explains the procedures for replacement of assemblies and units in the field.

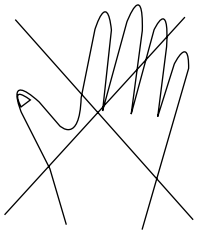
The section explains the procedures for replacement of parts, assemblies, and units in the field. Only the disassembly procedures are explained here. For reassembly, reverse the disassembly procedure.

4.1 Precautions for Parts Replacement

DANGER

Do Not
Touch !

HIGH VOLTAGE



You may be subjected to high-voltage electric shock by touching the following parts without an insulating material:

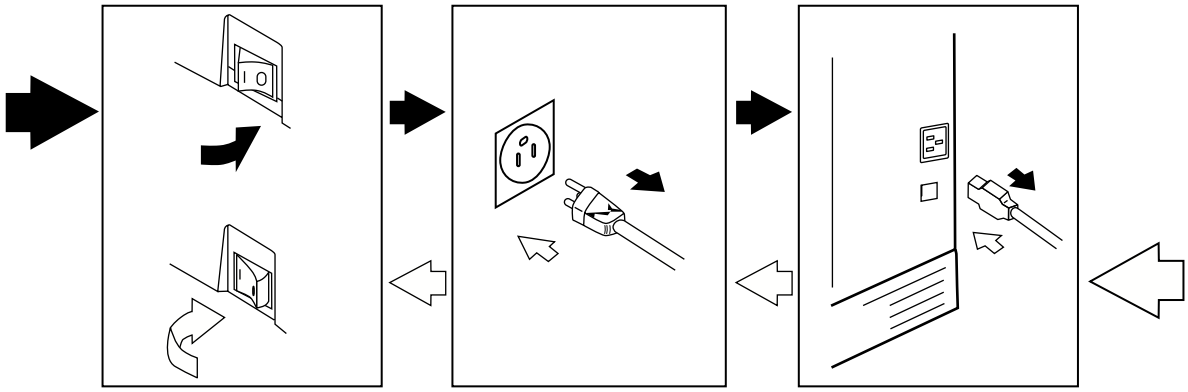
a. High-voltage unit PC board
b. Low-voltage PC board
c. Contact ass'y
d. Power supply unit

* The high voltage risk may continue for about 3 days after power-off.
* Never touch the power supply unit pattern.

(1) Before starting to replace parts, remove the AC cord.

(a) Remove the AC cord in the following sequence:
1. Turn off ("o") the power switch of the machine.
2. Disconnect the AC inlet plug of the AC cord from the AC receptacle.
3. Disconnect the line cable from the machine.

(b) Reconnect the machine in the following procedure:
1. Connect the AC cord and line cable to the machine.
2. Connect the AC inlet plug to the AC receptacle.
3. Turn on ("I") the power switch of the machine.



(2) Do not try to disassemble as long as the facsimile is operating normally.

(3) Do not remove unnecessary parts: Try to keep disassembly to a minimum.

(4) When disassembling, follow the prescribed sequence. Otherwise, parts may be damaged.

(5) Since screws and small parts are likely to be lost, they should temporarily be attached to their original positions.

(6) When handling items such as printed circuit boards, do not wear gloves that are likely to generate static electricity.

(7) Using a wrist band connected to the ground will protect semiconductors on printed circuit boards from damage by the static electricity.

(8) Do not place printed circuit boards directly on the equipment or on the floor.

(9) Remove the I/D unit (image drum)
-Lift the document table into an upright position.
-Push in the cover release buttons on the side of the copy stacker.
-Lift the copy stacker.
-Take out the I/D unit from the equipment.

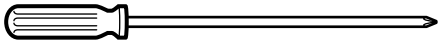
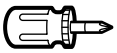
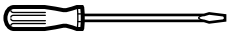
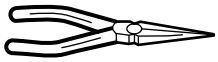
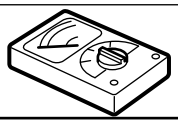
Caution: Do not expose the I/D unit to direct sunlight. To protect the I/D unit against room lights, cover it with A4-size paper or the like.

Board or Part		Adjustment
(a)	NCU board	DIP switches to be placed in the same position as on the removed board. Refer to Chapter 8.
		Note: The DIP switches setting is subject to change by PTT parameters. EN2 and INU board (Except for USA/Canada version)
(b)	LED print head	When the rank marking of the replaced LED print head (new part) is the same as that of the used LED print head (old part), you do not always have to set the LED print head strobe time by the technical function No. 26. (Refer to Chapter 5)

4.2 Tools

Table 4.1 shows the tools required for the replacement of parts such as circuit boards and mechanical units.

Table 4.1 Tools

No.	Service tools		Q'ty	Remarks
1		Philips screw driver (L)	1	
2		Philips screw driver (M)	1	
3		Philips screw driver (S)	1	
4		Flat screw drivers (S)	1	
5		Philips screw driver (S)	1	
6		Radio pliers	1	
7		Nippers	1	
8		Multimeter	1	Short-ciucuit test

4.3 How to Disassemble and Reassemble

This section explains how to disassemble and reassemble the fax.

- Figure 4.1 shows the disassembly procedure flow as generalization.
- The detailed disassembly procedure is explained from sub-section 4.3.1 to 4.3.8.

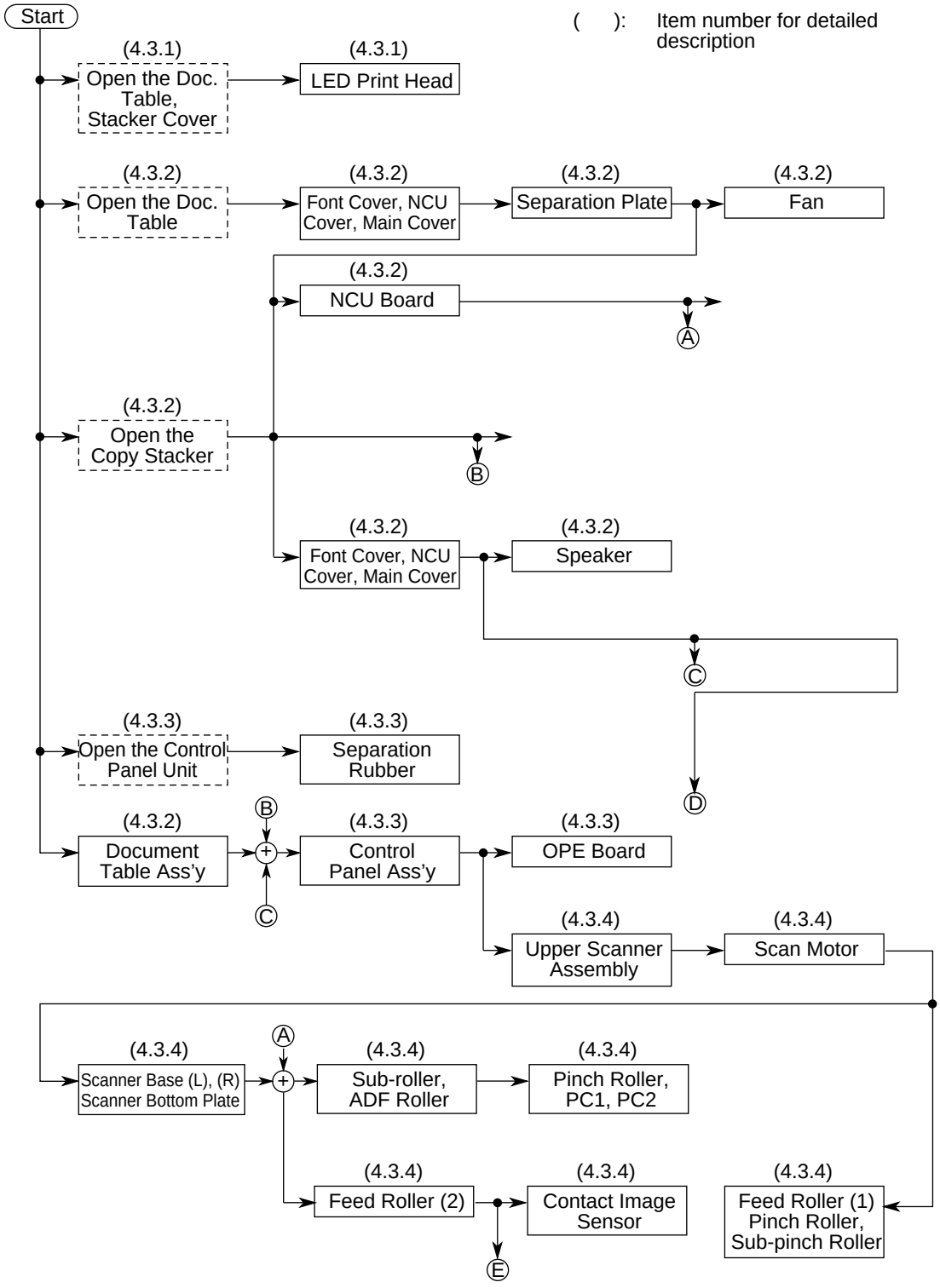


Figure 4.1 (1/2) Disassembly Procedure Flow

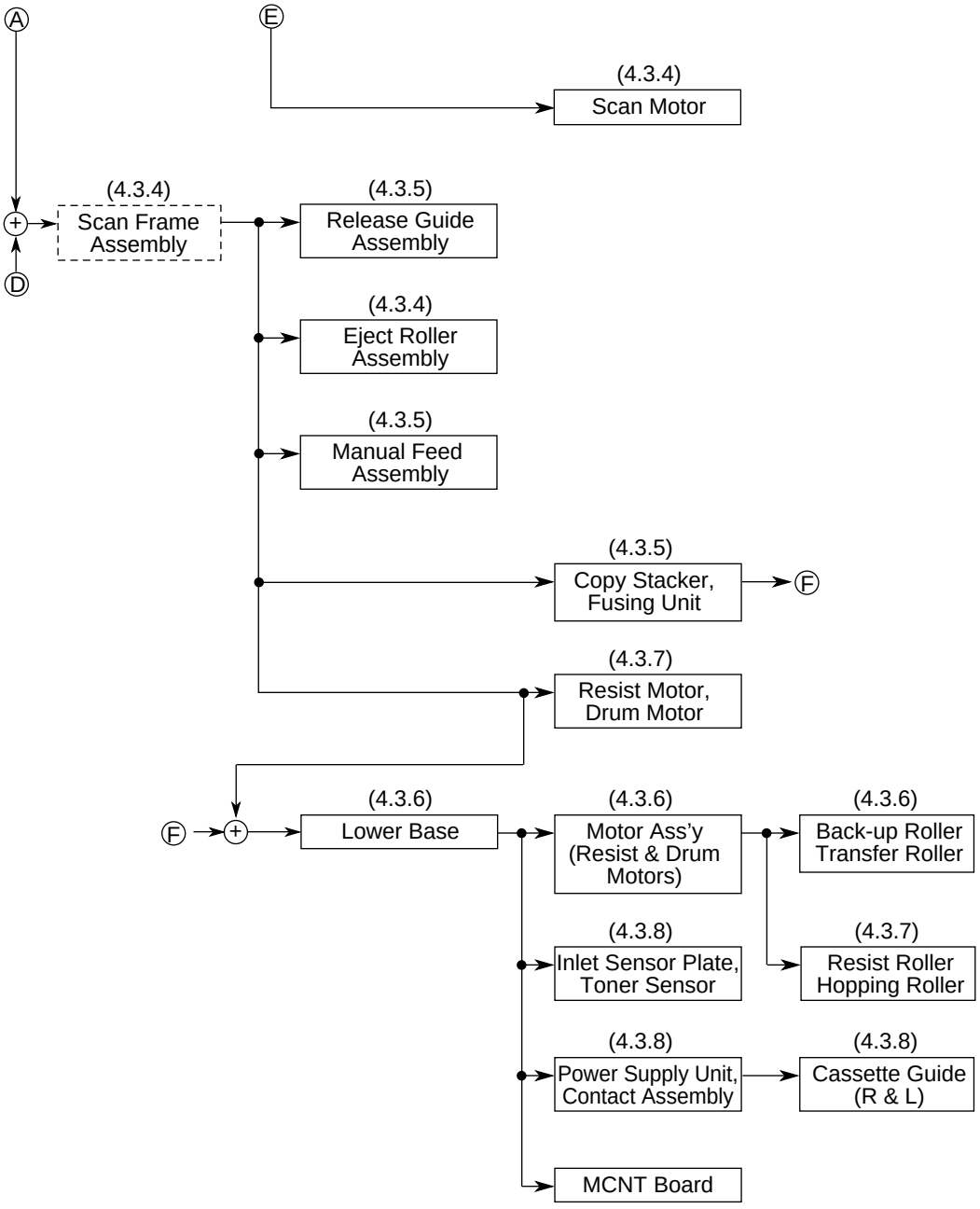


Figure 4.1 (2/2) Disassembly Procedure Flow

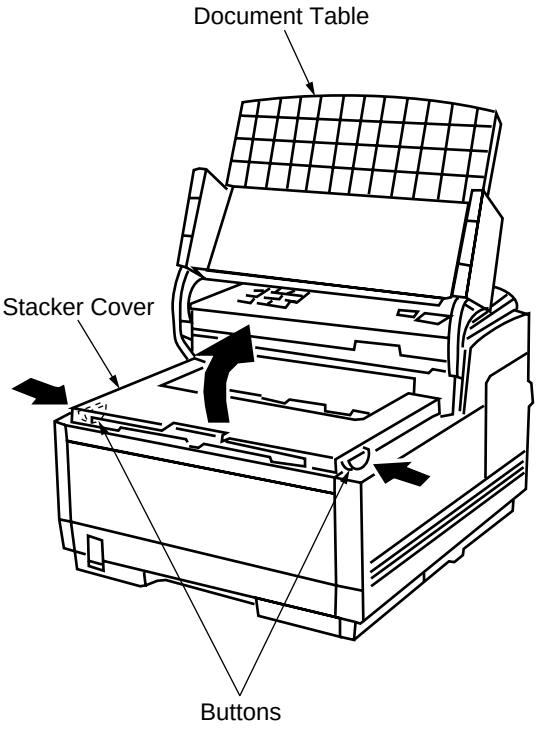
4.3.1 LED Print Head

It is used two kind of head as the LED print head. (208 mm width or 216 mm width)

(1) Disassembly procedure

a) Open the Document Table assembly.

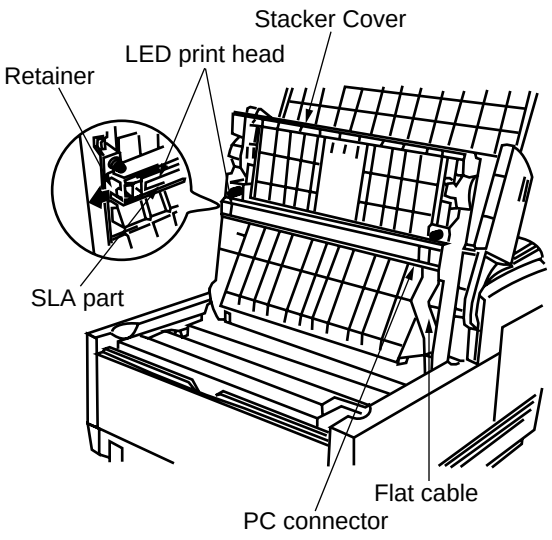
b) Open the Stacker Cover by pushing the Buttons.



c) Disconnect the PC connector from the LED print head.

d) Disconnect the flat cable from the PC connector.

e) Remove the LED print head while spreading the retainer on the Stacker Cover.



Note: Be sure not to touch directly or push the SLA part of the LED print head.

(2) Reassembly procedure

Reverse the disassembly procedures.

Note: After replacing the LED print head, set drive time of the LED print head following the marking. (Refer to section 5.1).

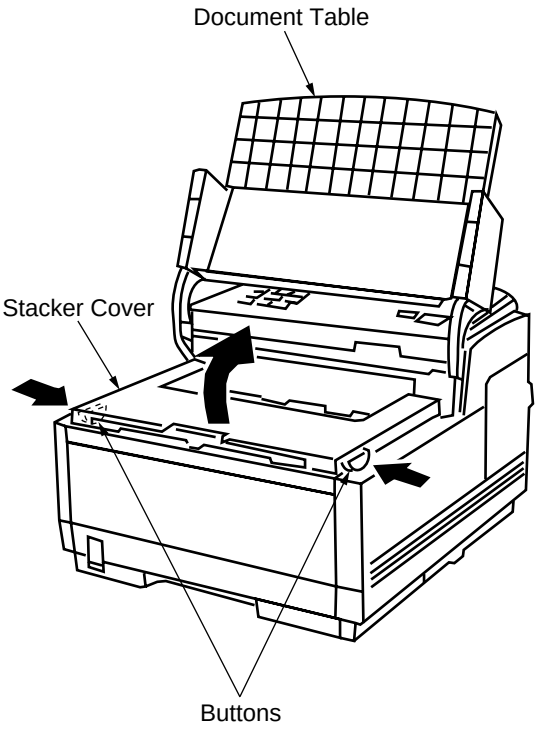
4.3.2 ID Unit, Rear Cover, NCU Cover, Main Cover, Separation Plate, NCU Board, Modem Board

(1) Disassembly procedure

1) ID Unit, Rear Cover, NCU Cover, Main Cover

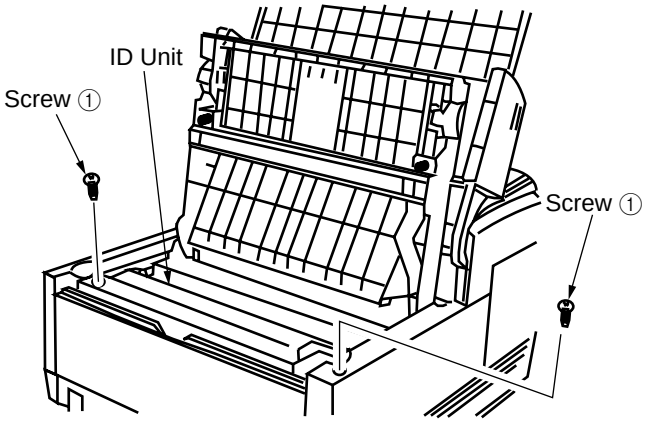
a) Open the Document Table assembly.

b) Open the stack cover by removing the buttons.



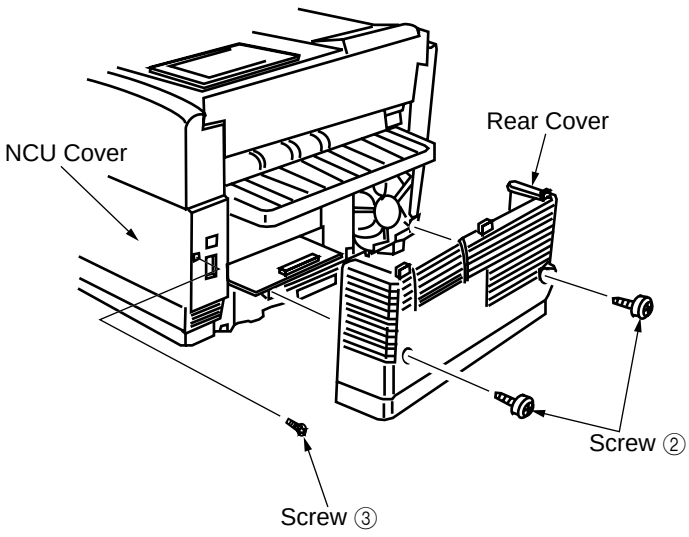
c) Take out the ID Unit from the equipment.

d) Remove the two screws ①.

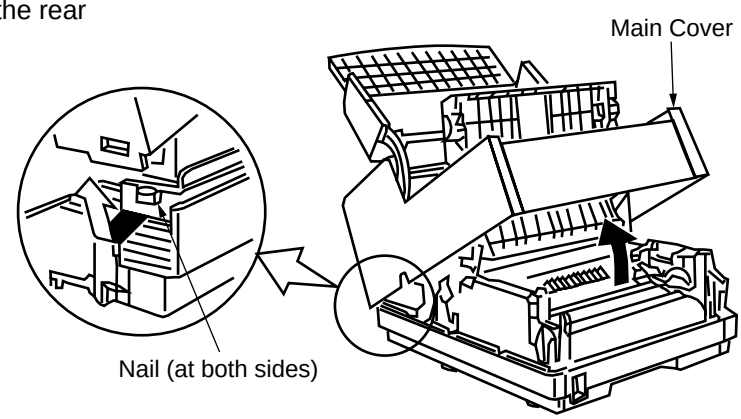


e) Remove the Rear Cover by removing the two screws ②.

f) Remove the NCU Cover by removing the screws ③.

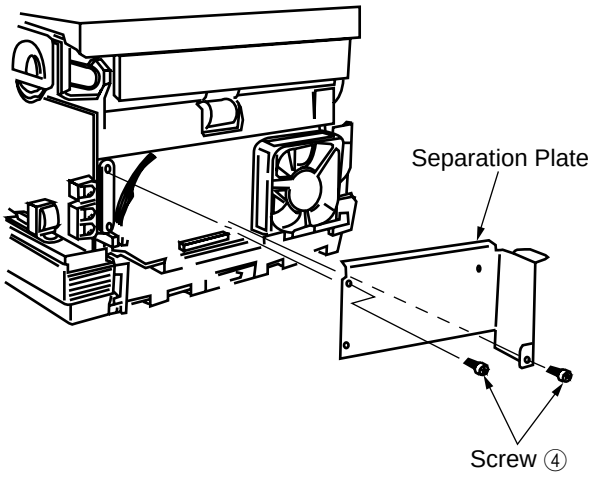


g) First, open the Main Cover from the front side, and then, remove the Main Cover by removing the nails at both sides on the rear side.



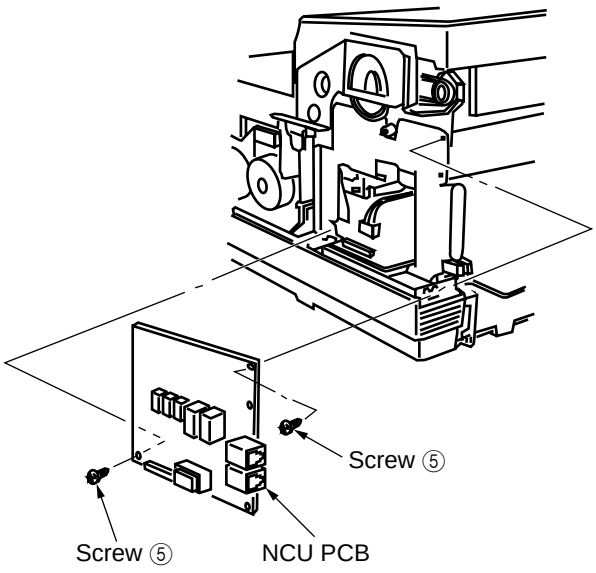
2) Separation Plate

a) Remove the Separation Plate by removing the two screws ④.



3) NCU Board, MODEM Board

Remove the NCU Board by removing the two screws ⑤.



(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.3 Control Panel Assembly, Paper Guide (U) Assembly

(1) Disassembly procedure

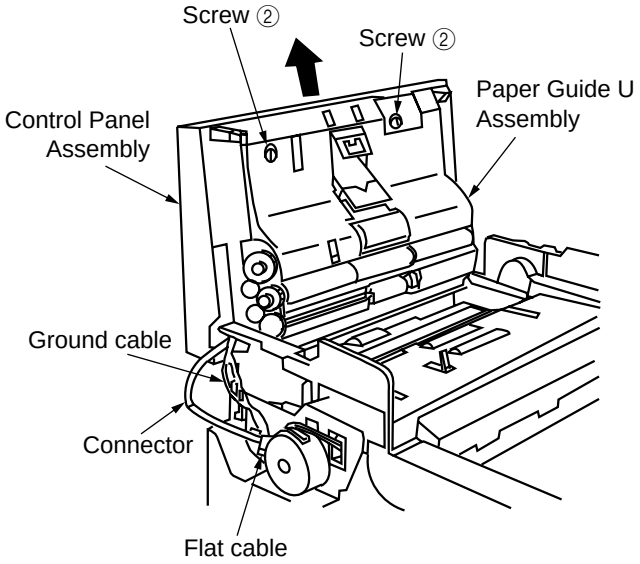
1) Control Panel Assembly and Paper Guide (U) Assembly

a) First, carry out the disassembly procedure up to the point of the 4.3.2 (Main Cover, NCU Cover and Rear Cover).

b) Remove the ground cable by removing the screw ①.

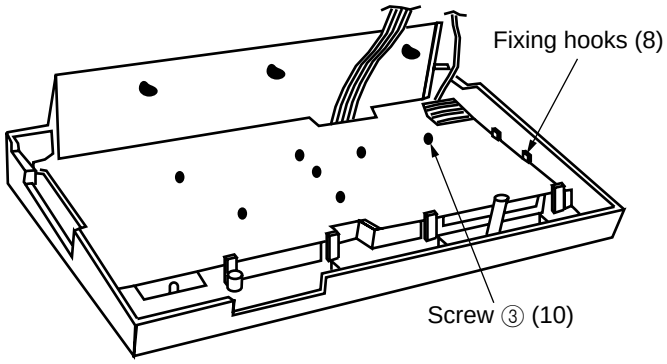
c) Disconnect the connector of the Control Panel from the MCNT Board.

d) The removal of the two screws ② results into two separate assemblies:
Control Panel Assembly and Paper Guide (U) Assembly.

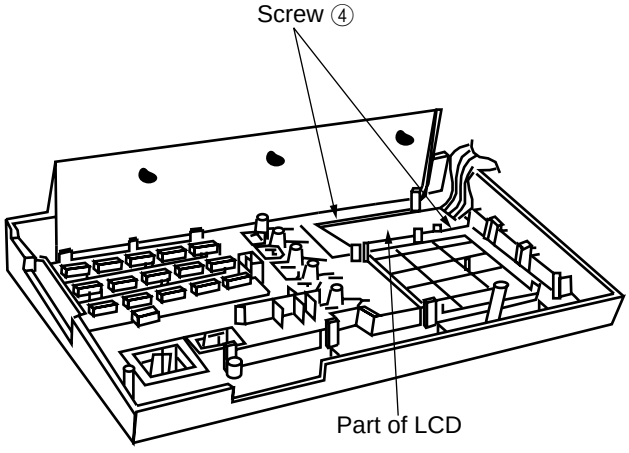


2) Control Panel Assembly

a) Remove the OPE Board by removing the 10 small screws ③ and the part of the fixing hooks (8).



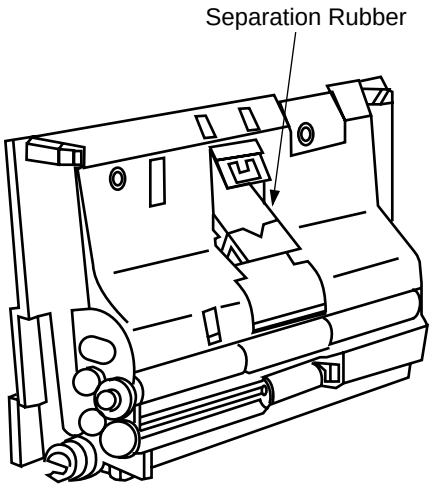
b) Remove the part of LCD by removing the two screws ④.



3) Paper guide (U) Assembly

a) Separation Rubber

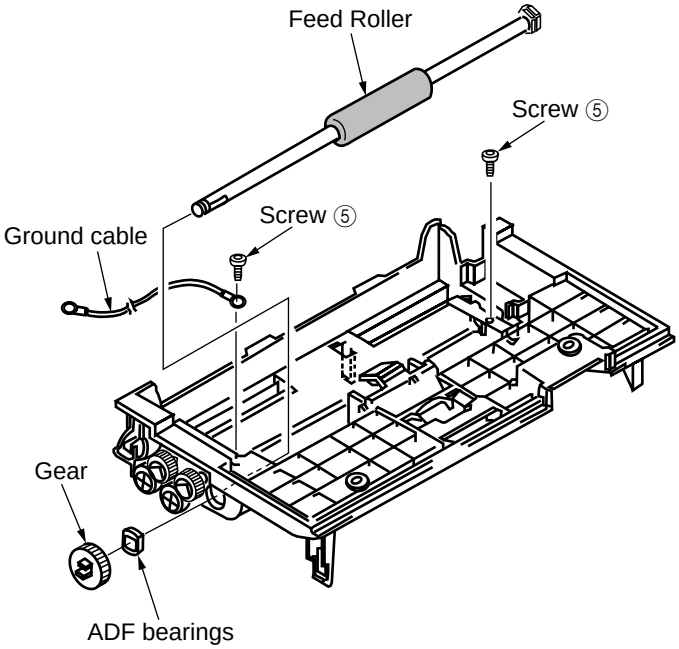
a. The Separation Rubber can be removed from the Paper Guide (U) Assembly.



b) Feed Roller

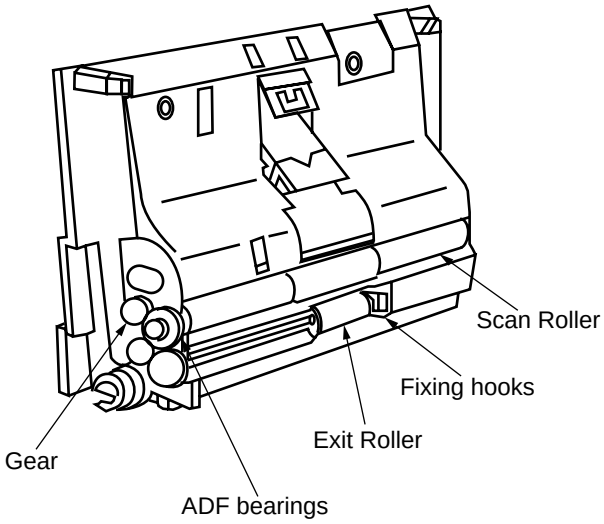
a. Remove the ground cable by removing the two screws ⑤.

b. Remove the Feed Roller by removing the gear and ADF bearings.



c) Scan Roller
Remove the Scan Roller by removing the gear and ADF bearing.

d) Exit Roller
Remove the Exit Roller while spreading and holding up the part of the fixing hooks.



Note: Be careful as not to break the shaft of the Exit Roller when removing.

(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.4 Sub-roller, ADF Roller Assembly, Pinch Roller, Contact Image Sensor, Document Detectors (PC1 and PC2).

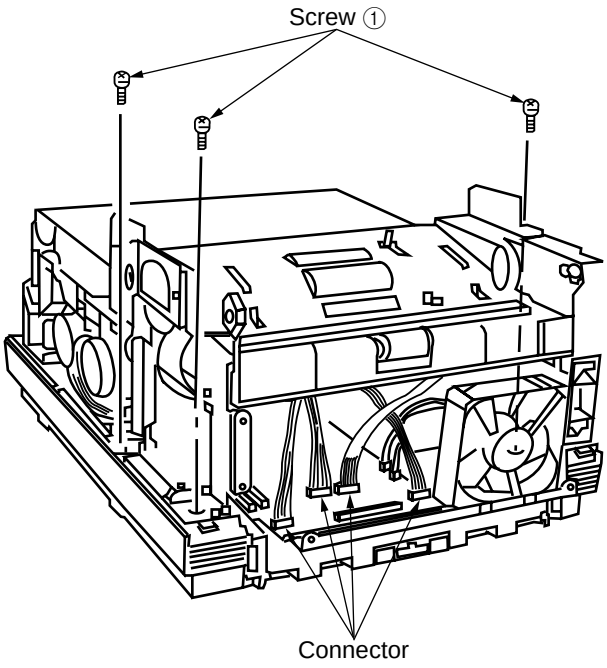
(1) Disassembly procedure

1) Scanner Unit

a) First, carry out the disassembly procedure up to the point of the 4.3.2 (Rear Cover and Main Cover) and 4.3.3 (Control Panel Assembly and Paper Guide (U) Assembly).

b) Disconnect the connector from the MCNT Board and the AC inlet from the scanner frame.

c) Remove the Scanner Unit by removing the three screws ①.

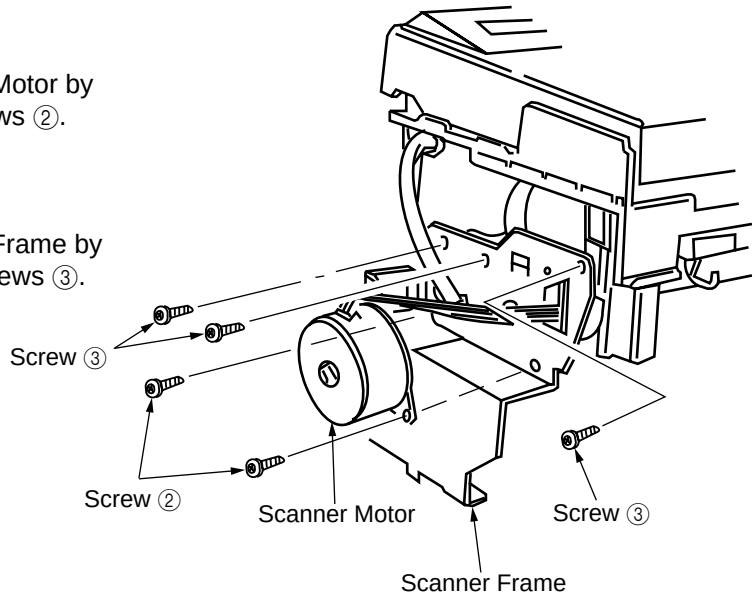


2) Scanner Motor

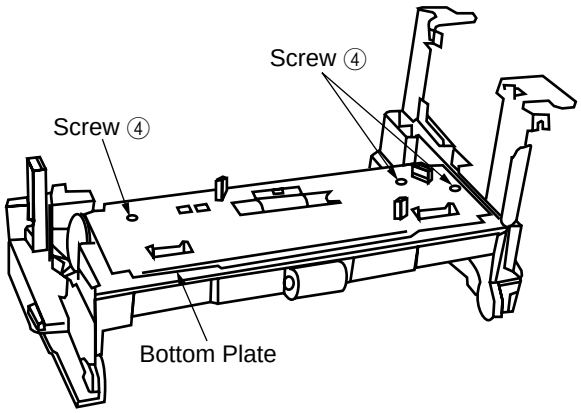
a) Remove the Scanner Motor by removing the two screws ②.

3) Scanner Frame

a) Remove the Scanner Frame by removing the three screws ③.



4) Sub-roller, ADF roller assembly, Pinch Roller, Contact Image Sensor



- Turn the Scanner Frame Assembly inside out and perform the disassembly procedure.

  a) Remove the Bottom Plate by removing the three screws ④.

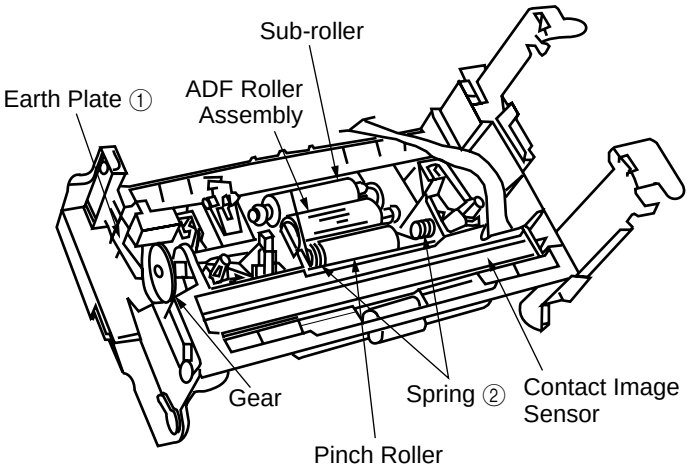
  b) Remove the Sub-roller from the Scanner Frame.

  c) Remove the Earth Plate ① from the Scanner Frame.

  d) Remove the ADF Roller Assembly by removing the gear on the Scanner Frame.

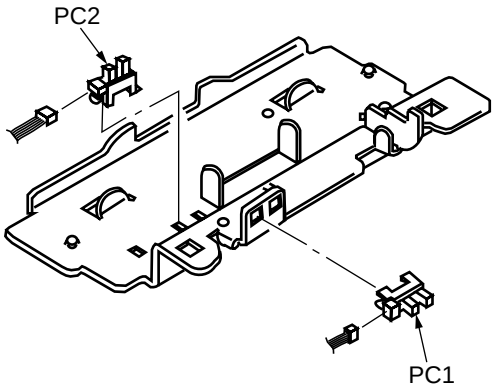
  e) After removing the ADF Roller, remove the Pinch Roller by holding up the two springs ② while the Pinch Roller Shaft is pushed and released.

  f) Remove the Contact Image Sensor by disconnecting the connector.



5) PC1, PC2

  a) After disconnecting the two connectors, remove the photo-coupler sensors PC1 and PC2 on the Bottom Plate by pressing the latch using the flat screwdriver or the like.



(2) Reassembly procedure

Reverse the disassembly procedure.

4.3.5 Resist Motor, Drum Motor, Release Guide Assembly, Manual Guide Assembly, Stacker Cover, Fusing Unit

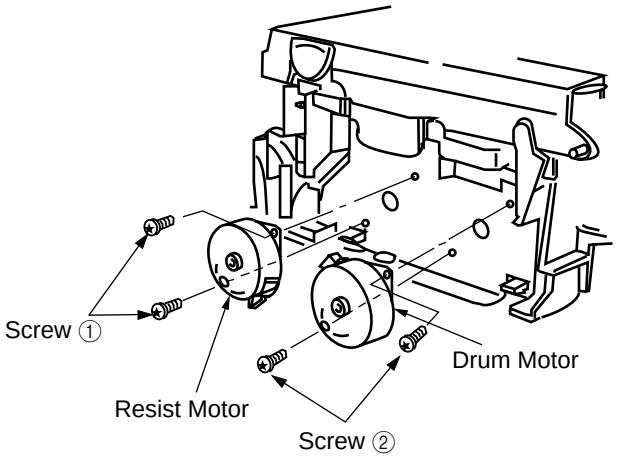
(1) Disassembly procedure

- First, carry out the disassembly procedure up to the point of the Scanner Unit Assembly removal (Refer to Sub-section 4.3.4.)

1) Resist Motor and Drum Motor

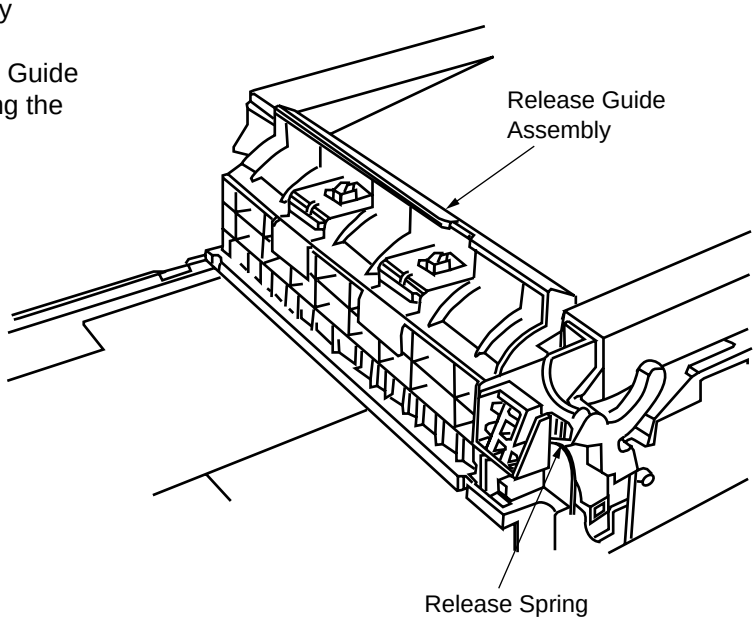
a) Remove the Resist Motor by removing the two screws ①.

b) Remove the Drum Motor by removing the two screws ②.



2) Release Guide Assembly

a) Remove the Release Guide Assembly by removing the Release Spring.

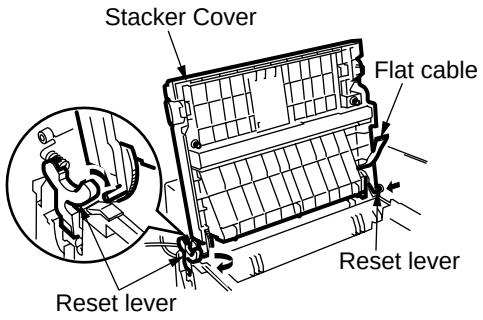


3) Stacker Cover

a) Disconnect the flat cable.

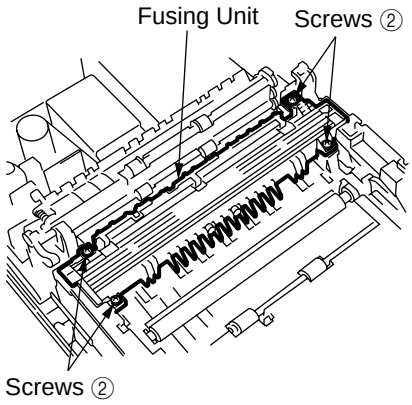
b) Remove the Stacker Cover by pressing inward the two latches on it from the two reset levers.

c) Remove the Stacker Cover by spreading it from the lower base.



4) Fusing Unit

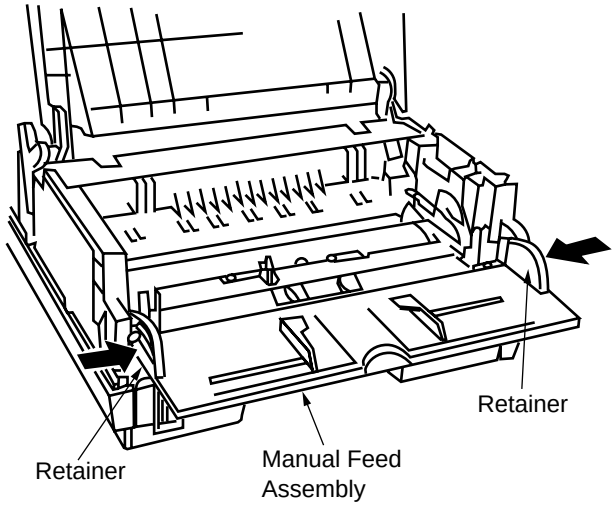
a) Remove the Fusing Unit by removing the four screws ②.



5) Manual Feed Assembly

a) First, carry out the disassembly procedure up to the point of Main Cover removal. (Refer to sub-section 4.3.2)

b) Remove the Manual Feed Assembly by pressing inward the two retainers.



(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.6 Lower Base, Motor Assembly, Back-up Roller, Transfer Roller

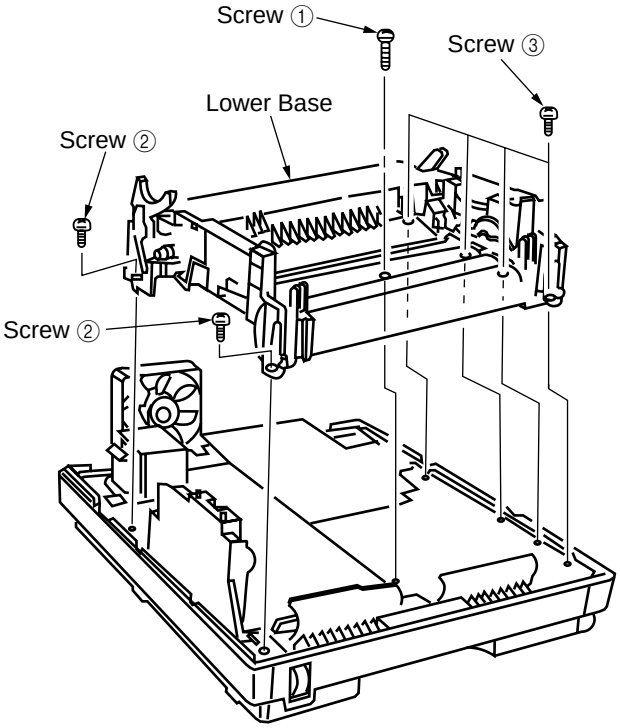
(1) Disassembly procedure

1) Lower Base, Motor Assembly

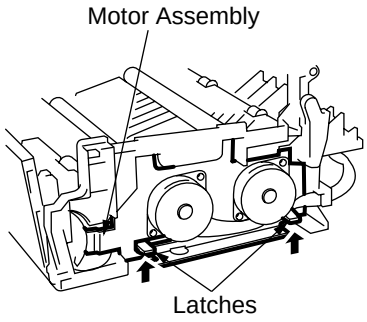
a) First, carry out the disassembly procedure up to the point of the Fusing Unit removal.
(Refer to sub-item 4.3.5.)

b) Disconnect the two connectors (CN3 and CN4 on the MCNT board).

c) Remove the Lower Base by removing the seven screws ① to ③.



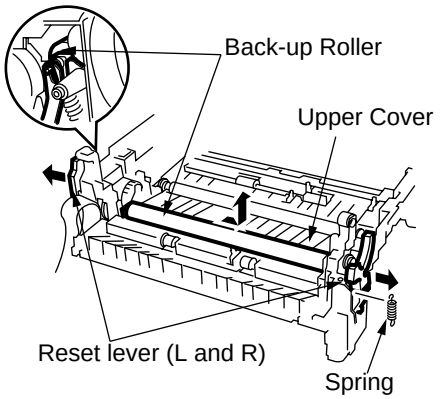
d) Press up and hold the two latches while removing the Motor Assembly out.



2) Back-up Roller, Transfer Roller

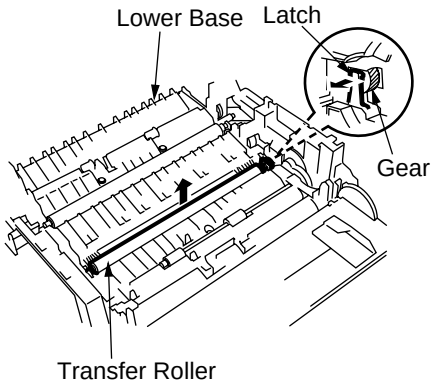
a) After removing the Lower Base, remove the spring.

b) Lift the left side of the Back-up Roller and pull it out leftwards.



c) Release the gear by unlocking the latch on the Lower Base.

d) Lift the right side of the Transfer Roller and shift rightwards, then pull it out from the Lower Base.



(2) Reassembly procedure

Reverse the disassembly procedures.

4.3.7 Resist Roller, Hopping Roller, Sensor Plates

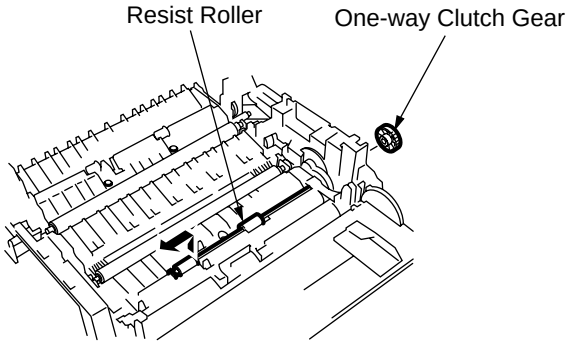
(1) Disassembly procedure

1) Resist Roller, Hopping Roller

a) First, carry out the disassembly procedure up to the point of the Lower Base removal.
(Refer to sub-item 4.3.6.)

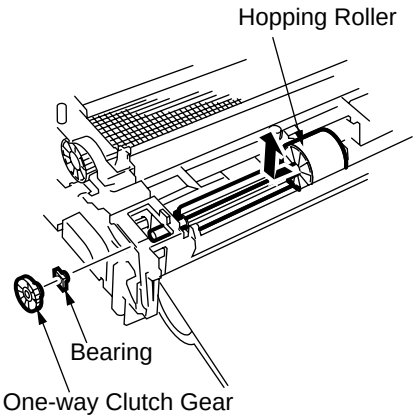
b) Remove the One-way Clutch Gear.

c) Press the Resist Roller to the right side and lift up the left side of it, then take off the Resist Roller.



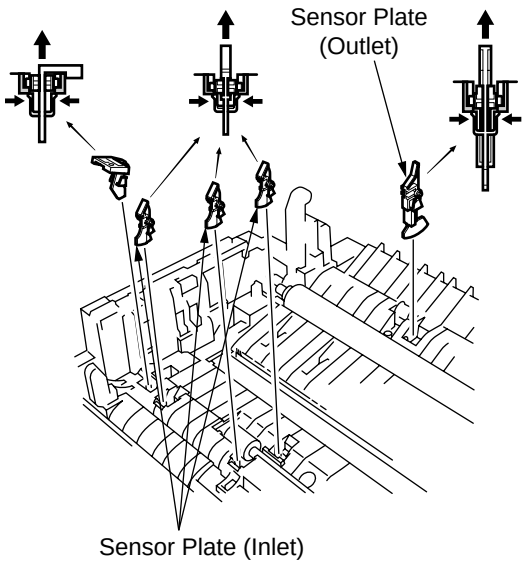
d) Remove the One-way Clutch Gear and Bearing.

e) Remove the Hopping Roller by sliding to the right side.

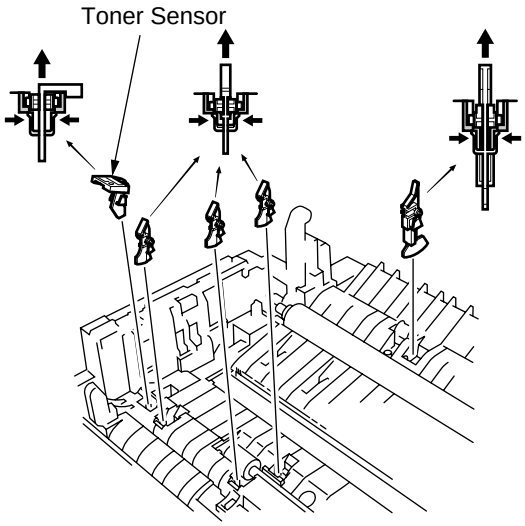


2) Sensor Plates (Inlet, Outlet), Toner Sensor

a) After removing the Lower Base, remove the Sensor Plate by pressing and holding the latches while shifting the Sensor Plate up and out.



b) Press and hold the Clutch while pushing the Toner Sensor up and out.



(2) Reassembly procedure

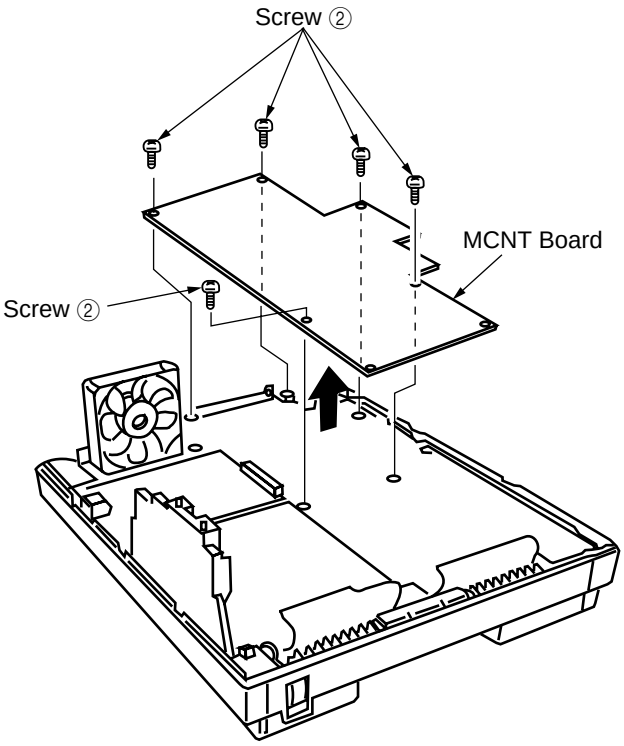
Reverse the disassembly procedures.

4.3.8 MCNT Board, Power Supply Unit, Contact Assembly

(1) Disassembly procedure

- First, carry out the disassembly procedure up to the point of the Printer Unit removal. (Refer to sub-section 4.3.6.)

  Note: MCNT board is shown below.



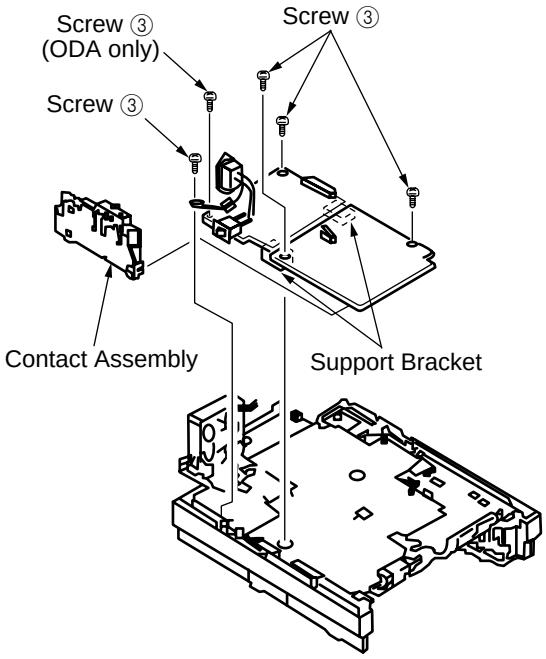
1) MCNT Board

   a) Remove the MCNT Board by removing the five screws ②.

2) Power Supply Unit and Contact Assembly

   a) Remove the Power Supply Unit by removing the four screws ③.

   Note: • Power Supply Unit consists of HV board and POW board jointed by Support Bracket.
   • Remove five screws ③ to remave the Power the Supply Unit of a unit produced from July 2004 (ODA only).



   b) Separate the Power Supply Unit from the Contact Assembly.

(2) Reassembly procedure

Reverse the disassembly procedures.

5. ADJUSTMENTS

5.1 Setting of LED Print Head Drive Time

- Adjustment point: Technical Function No. 26.

* To bring the LCD up to Technical Function, press SELECT FUNCTION key once, COPY key twice and "2" key (In case of no message in memory).

Note: When the rank marking of the replaced LED print head (new part) is the same as that of the used LED print head (old part), you do not always have to set the LED print head drive time.

Adjustment:

1) Turn AC power ON.
2) Setting of LED print head should be according to the Table 5.1 below:

Table 5.1 Setting of Technical Function No. 27

Setting / Rank Marking	MSB ↕ LSB																														
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1
		0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
		0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
291 — 313										*																							
269 — 290											*																						
248 — 268												*																					
229 — 247													*																				
212 — 228														*																			
196 — 211															*																		
181 — 195																*																	
168 — 180																	*																
155 — 167																		*															
143 — 154																			*														
132 — 142																				*													
122 — 131																					*												
113 — 121																						*											
105 — 112																							*										
100 — 104																								*									

Note: The luminous intensity ranking is determined by the first, second and third digits from the right in the LED print head (i.e. in ---XX122, 122 is the luminous intensity ranking.)

5.2.1 Confirmation Items

The clock frequency and power voltage of the machine are not possible to adjust in the field. However, their measurement procedures are described here for confirmation of clock frequency and each voltage.

1) Clock Frequency

- Measurement point: V60 board; R95-2 pin and ground terminal
- Specification: 20.000 MHz ± 50 PPM

Note: If the counter does not read with 20.000 MHz, replace with a new crystal oscillator (X1).

2) +5V DC Voltage (SUB)

- Measurement point: V60 board; CN1-12 pin and ground terminal
- Specification: +5V ± 4% (+4.5V to 5.2V)

3) +5V DC Voltage

- Measurement point: V60 board; CN1-7/8 pin and ground terminal
- Specification: +5V ± 4% (+4.5V to 5.2V)

4) +8V DC Voltage

- Measurement point: V60 board; CN1-10 pin and ground terminal
- Specification: +8V± 4% (+7.68V to 8.32V)

5) –8V DC Voltage

- Measurement point: V60 board; CN1-11 pin and ground terminal
- Specification: –8V± 4% (+7.68V to 8.32V)

6) +24V DC Voltage

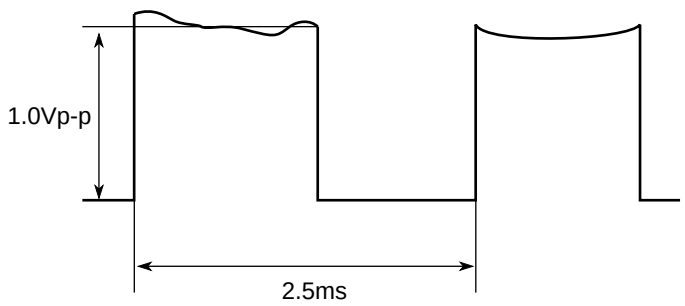
- Measurement point: V60 board; CN1-15 pin and ground terminal
- Specification: +22V to 27V

7) +30V DC Voltage

- Measurement point: V60 board; CN1-1/2 pin and ground terminal
- Specification: +26V to +45V

8) Contact Image Sensor Output (SIG signal)

- Measurement point: V60 board; CN5-1 pin and ground terminal
- Specification: A waveform sample is shown below.
- Test chart: White sheet (A4 size)



5.2.2 Measurement

1) Turn AC power OFF.

2) Carry out the disassembly procedure up to Main Cover and Scanner Unit removal.
(Refer to the Mechanical Disassembly and Reassembly in Chapter 4.2.)

3) Connect extension cables to the V60 board.

4) Connect the frequency counter (for clock frequency), digital voltmeter (for power voltage) and Oscilloscope (for SIG signal). See Figure 5.1.

5) Turn AC power ON.
Main power supply is set to "ON" (PC1 ON) by loading the document on the cover-top.
(except +5V SUB)

6) Measurement

7) Turn AC power OFF.

8) Reverse the disassembly procedures.

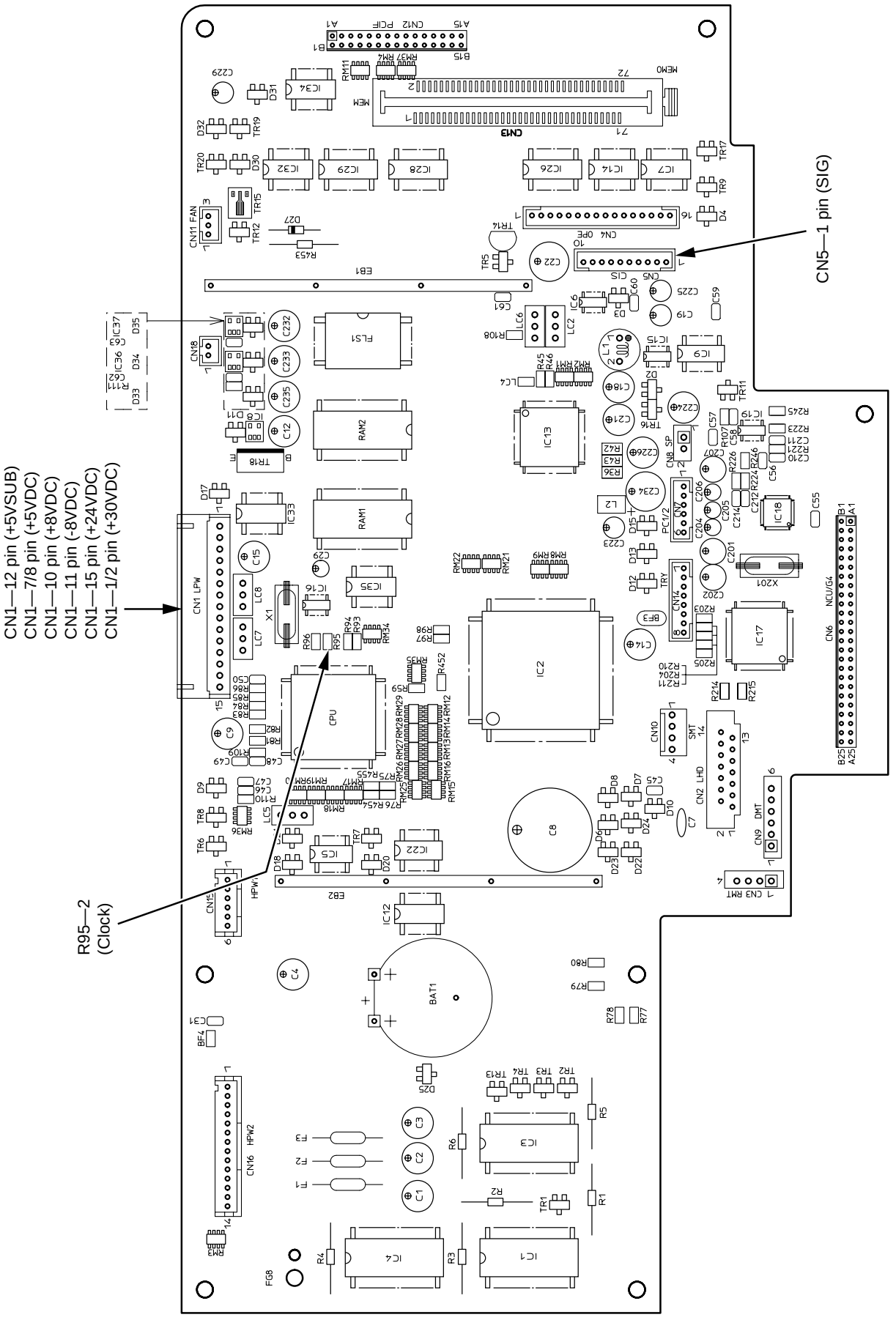


Figure 5.1 Measurement Points on V60 Board

6. CLEANING AND MAINTENANCE

6.1 Replacement of Consumable Parts

The user (or service personnel) is required to replace the following items as consumable parts.

(1) User side

No.	Part name	Expected Use Before Replacement	Reference Item No. in Figure 6.1
1	Toner Cartrige	2500 sheets/cartrige (at 4% duty) (ITU-T document sample No.1) (For the second or later cartridge to a new I/D Unit) * The first toner cartridge installed in a new I/D unit will have a decreased yield.	(1)
2	I/D Unit (Image drum unit)	11,000 sheets/unit	(2)

(2) Service personnel side

No.	Part name	Expected Use Before Replacement	Reference Item No. in Figure 6.1
1	Fuser Unit	180,000 sheets	(3)
2	Separation Rubber	The Separation Rubber will not require replacement for at least 30,000 documents fed.	(4)

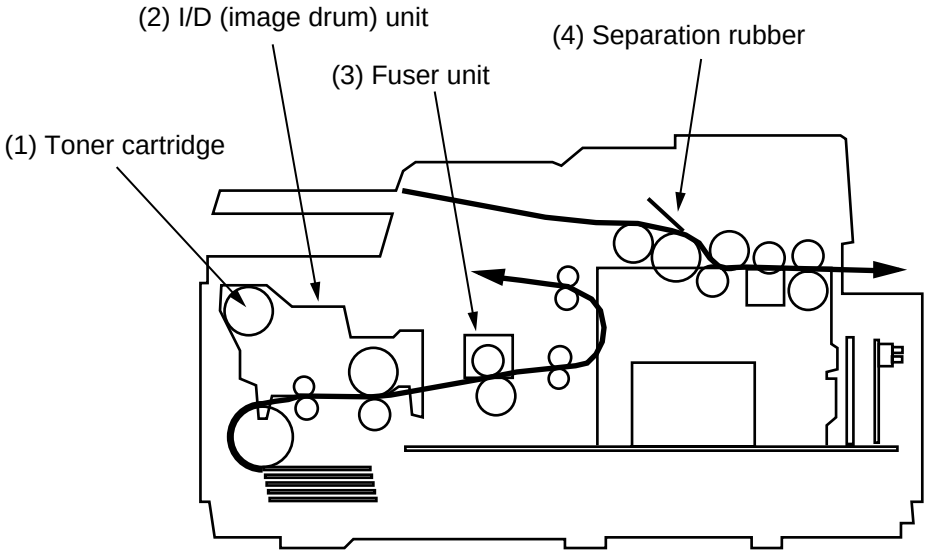


Figure 6.1 Consumable Parts

(3) Others

Table 6.1 Reliability

No.	Item	Specifications
1	Document feeder	Jam occurrence and misfeeds in the automatic document feeder will be less than one in 500 operations for all specified documents.
2	Recording paper feeder	Jam occurrence in the automatic paper feeder will be less than one in 1,500 operations and misfeeds will be less than one in 500 operations for all specified recording paper.
3	Battery • for RTC	 The life of the battery is five years. Lithium battery: Not rechargeable.
	• for Memory	300 cycle change/dischange Manganese dioxide lithium battery: chargeable.
4	MTBF	The MTBF for the overall machine will exceed 3,000 hours of actual operation. The MTBF will be measured at a confidence level of 95% under controlled laboratory conditions. The MTBF will be based on 50% transmit and 50% receive activities.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

6.2 Routine Inspection

Basically, the routine inspection of following items is performed about half-yearly (or every one year) after the machine is installed. The description of routine inspection is shown in Table 6.2.

Table 6.2 Routine Inspection

No.	Part name	Expected Use Before Replacement	Reference Item No. in Figure 6.2
1	Scan Roller	Clean with wet cloth.	(1)
2	Feed Rollers No. 1 and No. 2	Clean with wet cloth. If the surface of these rollers becomes dirty and the dirt causes the transmitted image or the local copied image to expand vertically, perform this cleaning.	(2)
3	Sub Roller	Clean with wet cloth.	(3)
4	Pinch Rollers	Clean with ethyl alcohol.	(4)
5	ADF Roller	Clean with wet cloth. If the surface of this roller becomes dirty and the dirt causes misfeeding of documents, perform this cleaning.	(5)
6	Contact Image Sensor	Check for accumulation of paper dust, etc. Clean with ethyl alcohol if necessary.	(6)
7	Separation Rubber	Clean with wet cloth. If this rubber is worn out, replace this rubber. (every one year)	(7)
8	LED print head	Clean the surface of the head by moving the tissue paper back and forth several times.	(8)
9	Printer unit	Clean the inside of the printer unit by using wet cloth.	
10	Lubrication	Apply MOLYKOTE EM-30L Greese (Made by Dow corning co., ltd.) to the following parts: a. Gears (every one year)	
11	Cleaning	Remove materials that have fallen from outside, if any.	

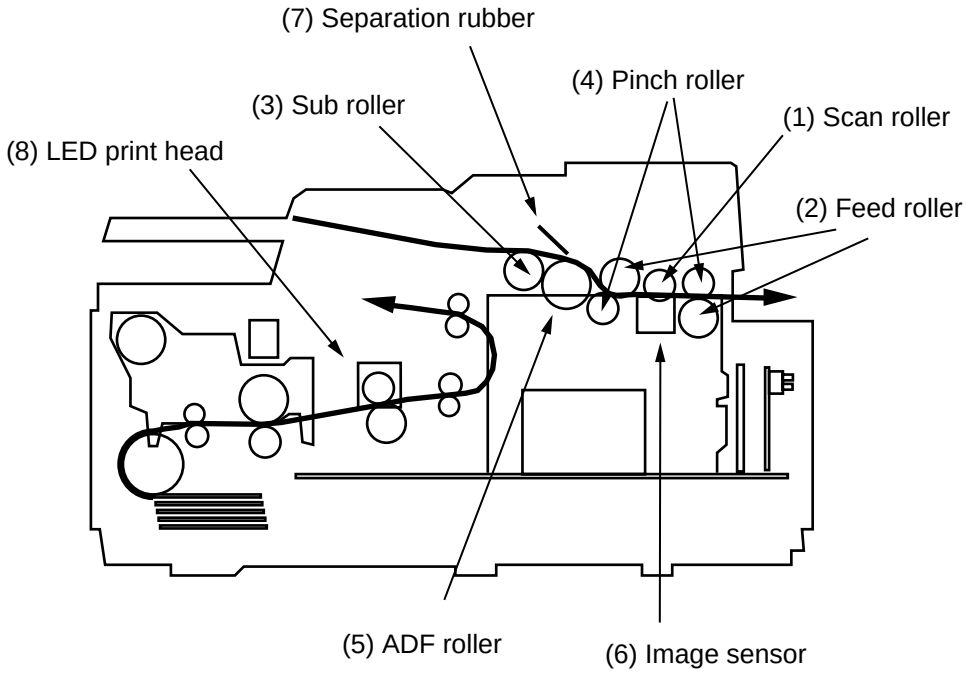


Figure 6.2 Parts of Routine Inspection

6.3 Printer Counter Display/Clear

Note: The fonts displayed on the LCD operation panel may differ from the fonts written this manual.

1. Purpose

A user can clear the image drum unit and check some of the counters (such as the print counter, scan counter) by using the ← key or → key.

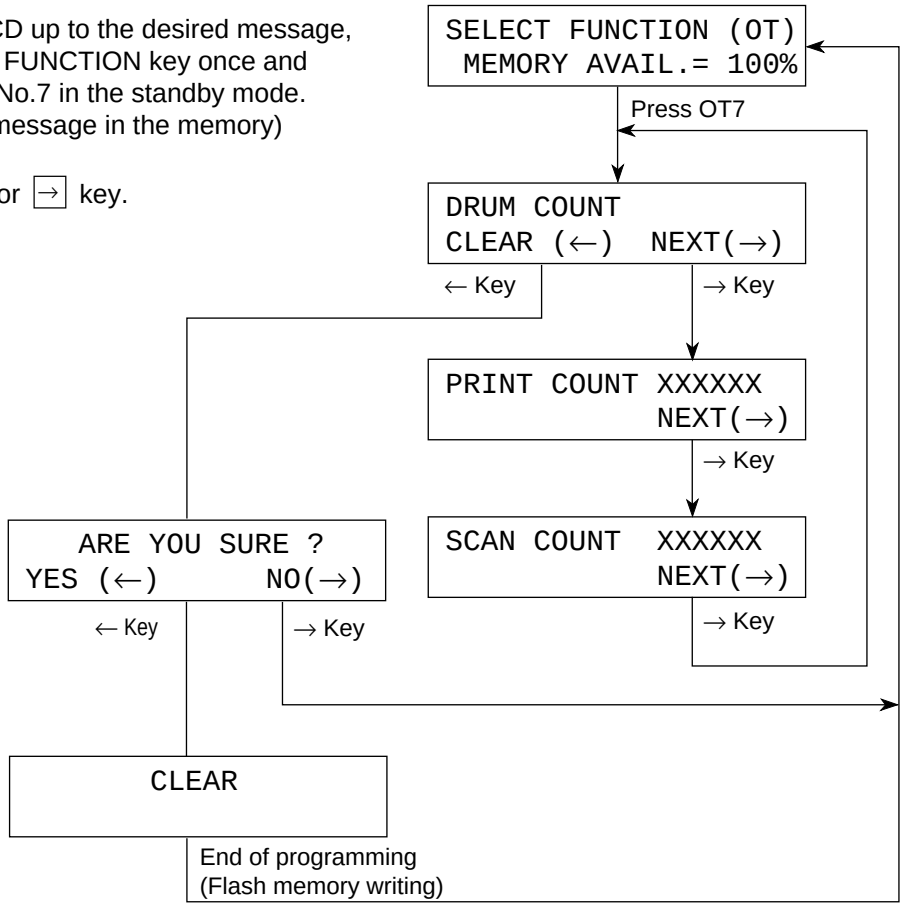
2-1. Procedure

The following shows the case when the service bit has been set OFF & TONER COUNT CLEAR = OFF.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No.7 in the standby mode. (In case of no message in the memory)
- Press [←] key or [→] key.

The display shows:



Note : Clear Operation

No. of print counter and scan counter (pages) will appear but cannnot be cleared by user.

User can clear only DRUM counter.

After having cleared the drum counter, warning message will be disappeared.

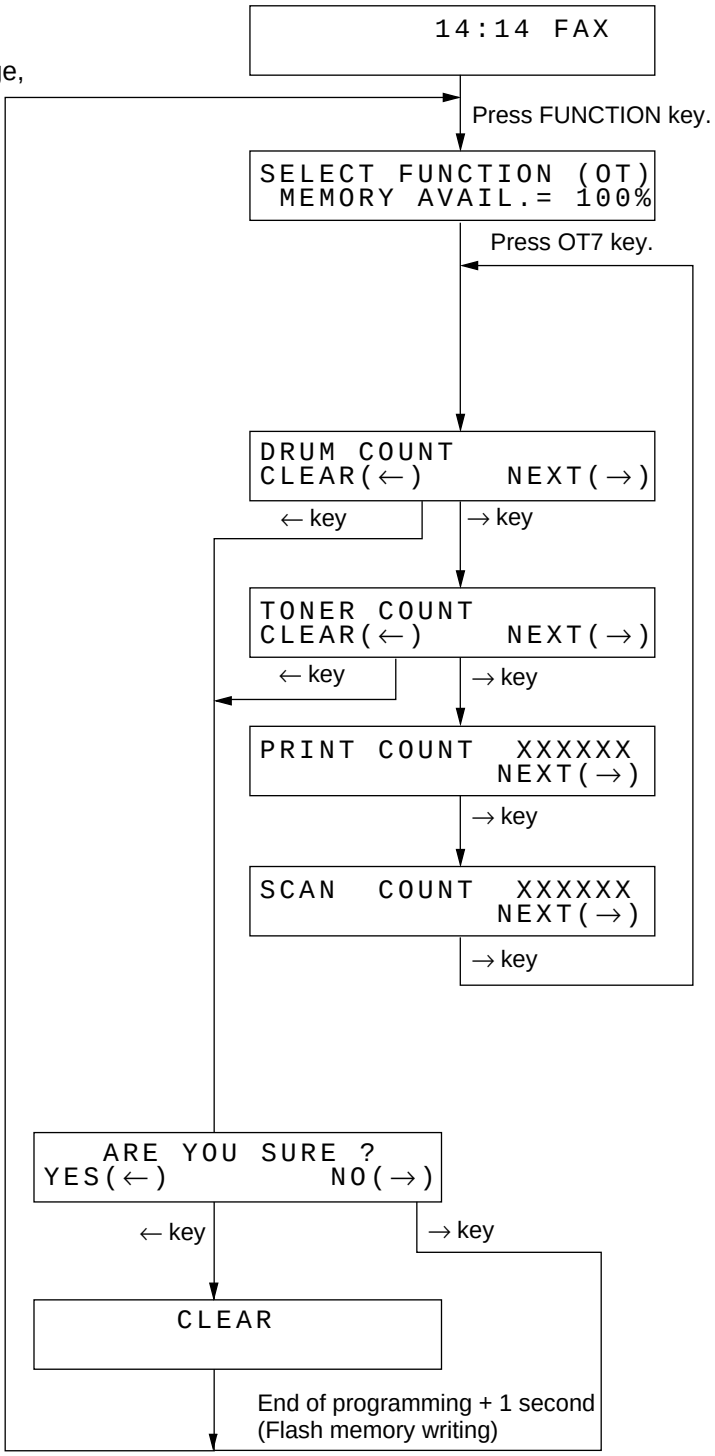
2-2. Procedure

The following shows the case when the service bit has been set OFF & TONER COUNT CLEAR = ON.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 7 in the standby mode. (In case of no message in the memory)
- Press ← key or → key.

The display shows:



Note : Clear Operation

No. of print counter and scan counter (pages) will appear but cannot be cleared by user.
User can clear DRUM counter and TONER counter.
After having cleared the drum counter, warning message will be disappeared.

6.4 Printer Counter Display/Clear

1. Purpose

The service personnel can clear and check the following data:

- Image Drum
- Toner
- Image Drum (Total)
- Print
- Scan

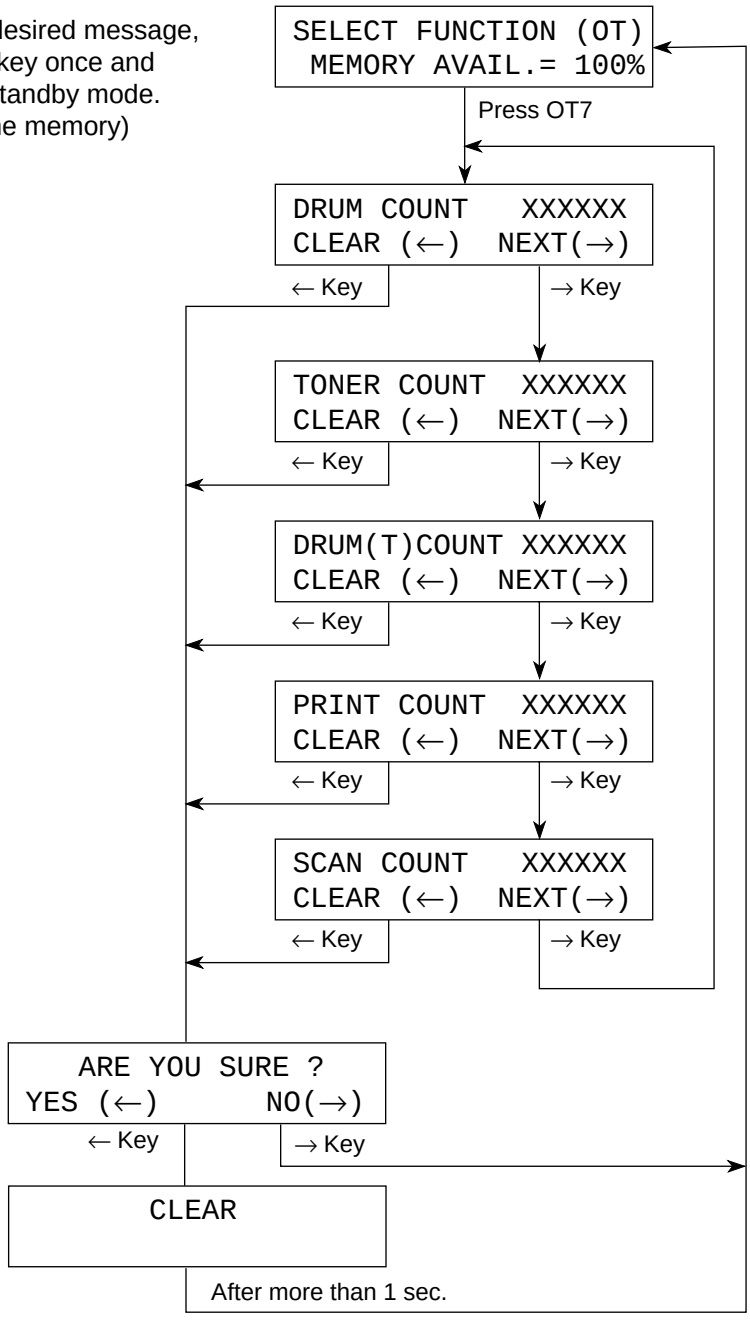
2. Procedure

The following shows the case when the service bit has been set ON.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and one-touch key No. 7 in the standby mode. (In case of no message in the memory)
- Press [←] key or [→] key.

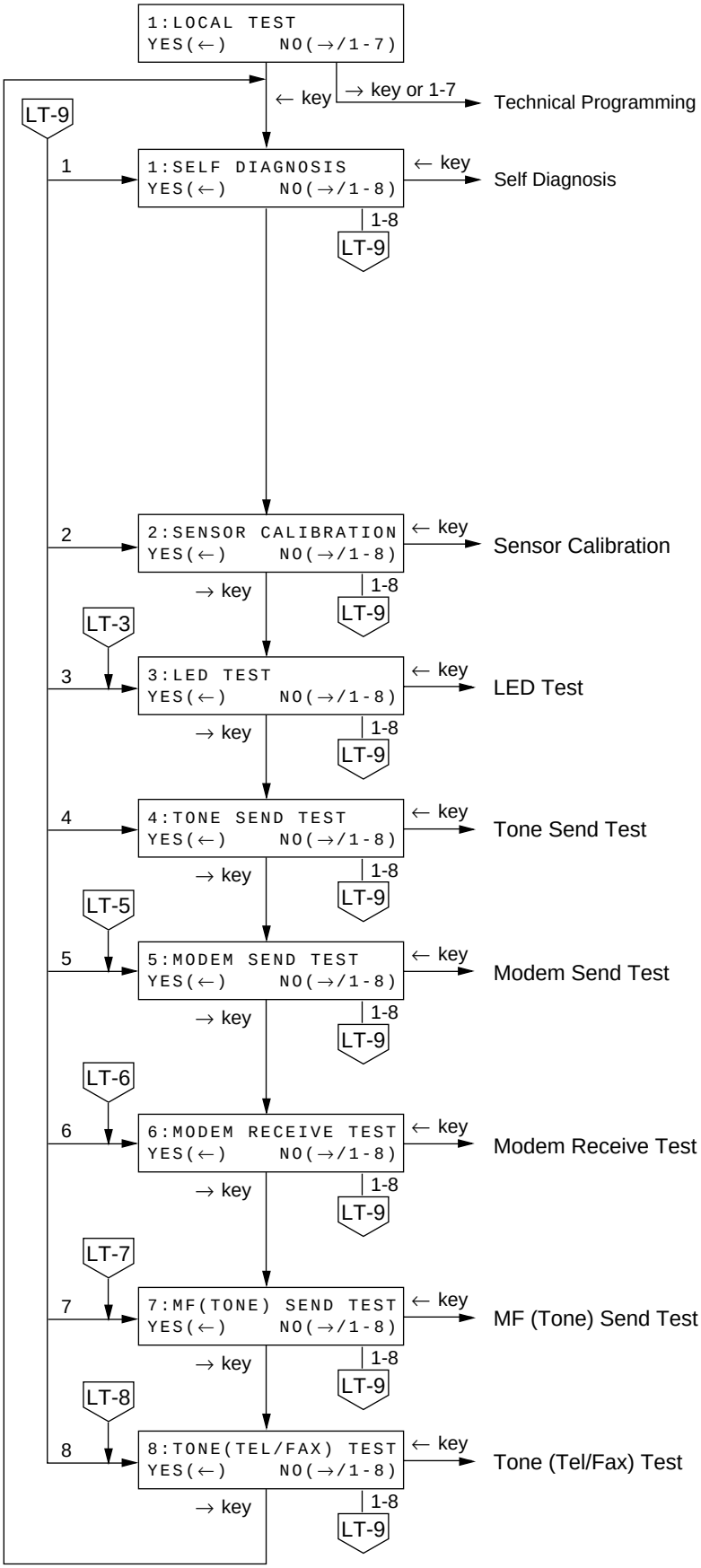
The display shows:



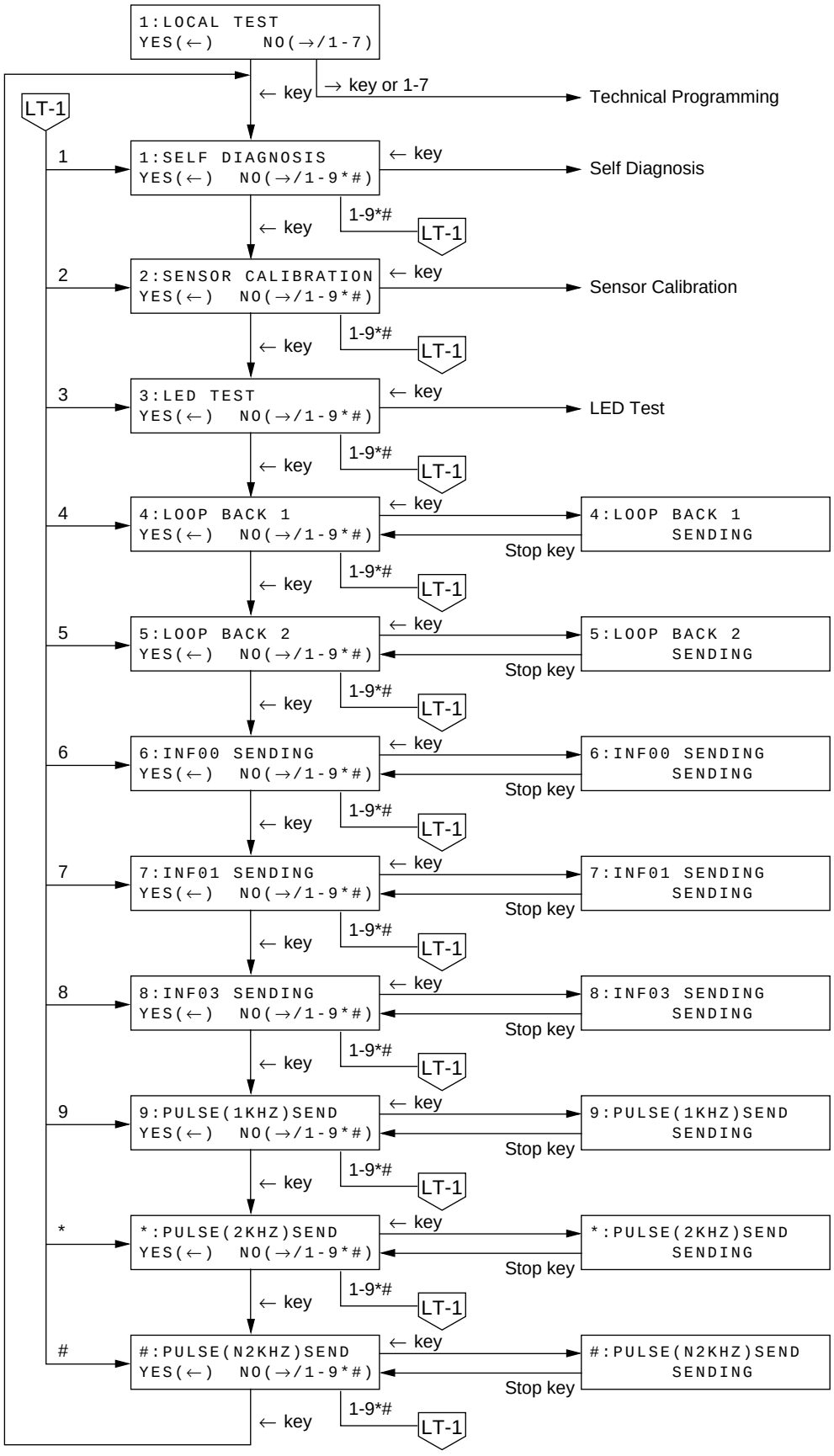
Note: DRUM (T) will be used to know the total in-use life of the machine.

6.5 Local Test

6.5.1 When G4 option board is not installed



6.5.2 When G4 option baord is installed



- When G4 option board is installed, the following items can be selected.
  LOOP BACK 1 to PULSE (N2KHZ) send
- These tests are continued till STOP key is pressed.

6.6 Self-diagnosis Test

1. Purpose
To check ROMs, RAMs and printing function.

2. Procedure

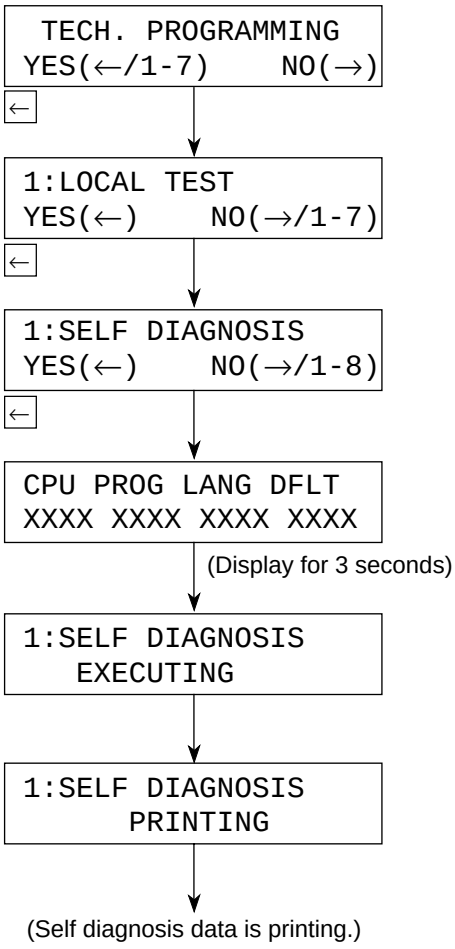
(in Case of not G4 Boad)

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in the memory)
- Press [←] key.
- Press [←] key.
- Press [←] key to activate self-diagnosis.

(Figure 6.3 shows the printed data.)

The display shows:



6.6.1 Self Diagnosis Report

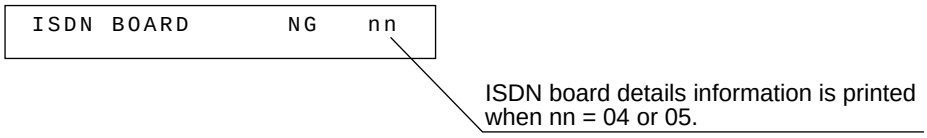
6.6.1.1 Print conditions

1) The following self diagnosis results are always printed.
   - CPU - ROM, FLASH - PROGRAM / LANGUAGE / DEFAULT version read and hush check.
   - CPU-RAM, FLASH - RAM read/write check
   - Image processor LSI RAM check
   - Setting DEFAULT TYPE and reading clock at self diagnosis execution.

2) The following is printed the condition of option provided or not.

*1 Printed only when 1284 option is provided. “MFG:,” “MDL:,” and “DES:” information is printed out of ID character strings of PnP device. Small letters can be printed. The maximum number of each of letters and characters shall be 45.

*2 Printed only when ISDN option is provided.
When performing self diagnosis, ISDN board test is executed and its result (error information at power on is partially adopted) is printed.
The print contents at ISDN error are as shown below.



nn=01: Waiting PC loading
When turning on power, BOOT2 signal from HOST side was in PC loading mode.

nn=02: Board faulty
When turning on power, PROGRAM HASH of ISDN board was no good.

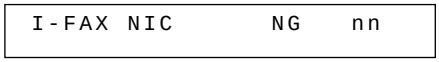
nn=03: Board faulty
Initial sequence between boards was not executed in spite of elapse of 10 seconds after turning on power. (Status window did not obtain normal value.)

nn=04 Board faulty
Initial sequence of ISDN LSI was not executed when turning on power. (No response to command, Response no good)

nn=05: ISDN LSI faulty
ISDN LSI test function (ROM/RAM test, loop test) resulted no good.

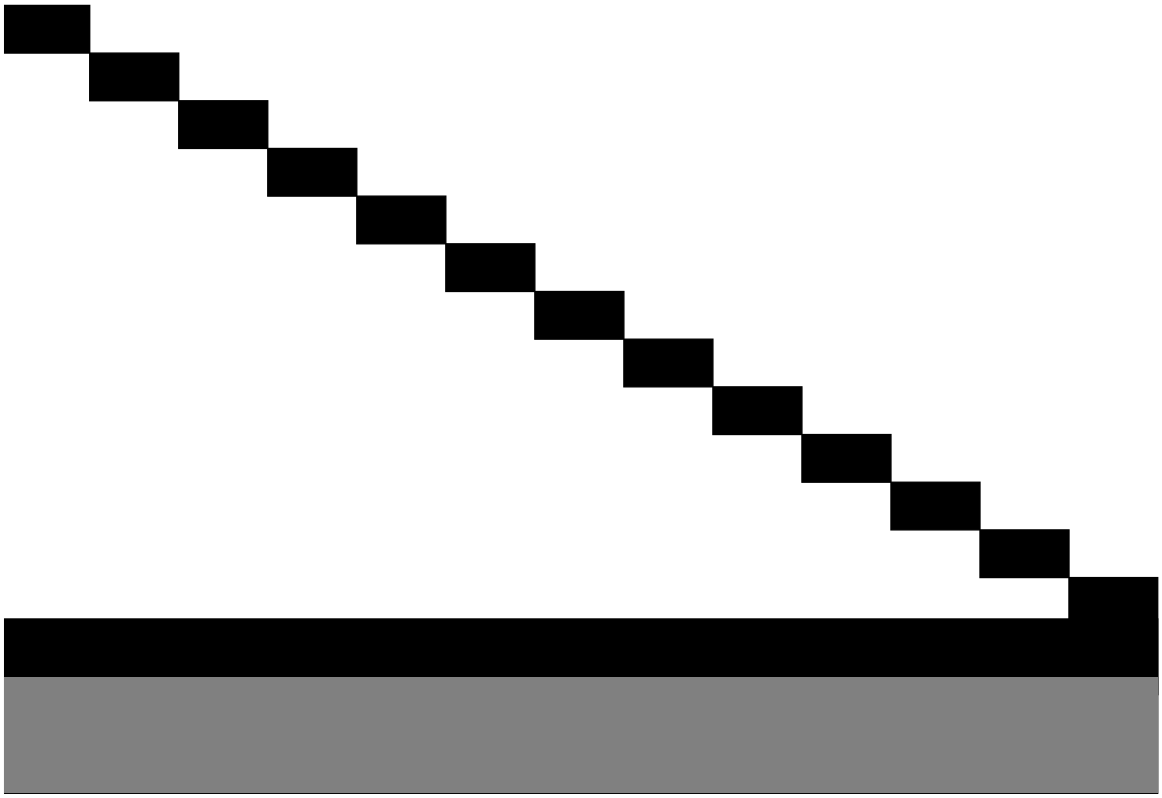
* Figure 6.3 shows a printed sample.

*4 Indicate when an I-FAX NIC option is installed.
Perform an I-FAX NIC option test upon self-diagnosing and indicate the results.
The indications upon generating an I-FAX NIC option error are listed below.



*5 Indicate when installed with an I-FAX NIC option. (Separate versions by inserting a hyphen (-) in between.)
Indicate the F/W version for an I-FAX NIC option in six digits.
Indicate the boot block version for an I-FAX NIC option in four digits.
Indicate the hardware version for an I-FAX NIC option in three digits.
Only the set value upon an I-FAX NIC option board error is to be blank.

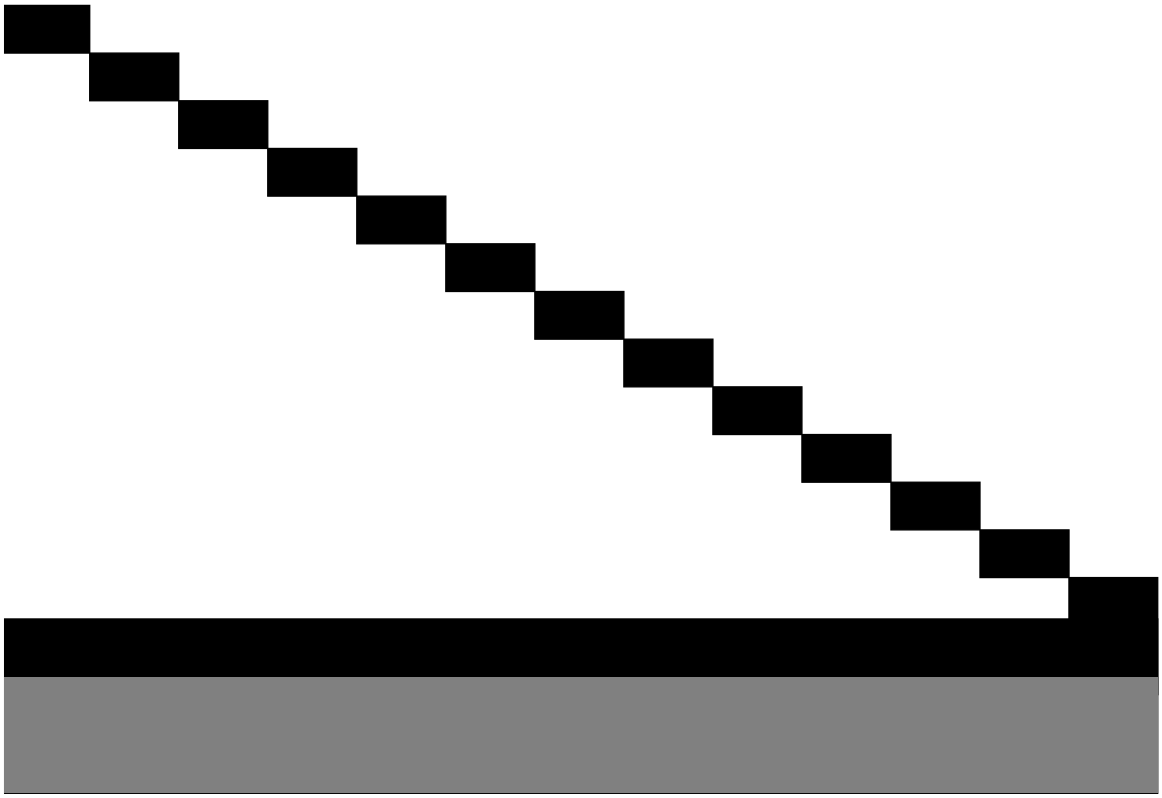
*6 Indicate the MAC address when installed with an I-FAX NIC option.
Only the set value upon an I-FAX NIC option board error is to be blank.



a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

```
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
LANGUAGE  VERSION  aaaa
          HASH     OK   hhhh
DEFAULT   VERSION  aaaa
          HASH     OK   hhhh
RAM1               OK
RAM2               OK
DEFAULT TYPE       01   03/03/2002  12:00
MODEM     VERSION  hhhh
1284 BOARD
DEVICE ID          MFG:OKI DATA CORP;            *1
                   MDL:FX-060VP;                 *1
                   DES:OKI FX-060VP;             *1
OPT-RAM   4M       OK
ISDN BOARD         OK                            *2
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
RAM       2M       OK
DPRAM     2K       OK
```

Figure 6.3.1.1 Self-diagnosis Data (Installed with a 1284 option and G4 option.)



```
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
LANGUAGE  VERSION  aaaa
          HASH     OK   hhhh
DEFAULT   VERSION  aaaa
          HASH     OK   hhhh
RAM1               OK
RAM2               OK
DEFAULT   TYPE     01   11/01/2002  12:00
MODEM     VERSION  hhhh
I-FAX NIC          OK   nn                        *4
PROGRAM   VERSION  aaaaaa-nnnn-nnn                 *5
MAC ADDRESS        00.C0.26.39.23.38              *6

OPT-RAM   4M       OK
ISDN BOARD         OK
CPU-ROM   VERSION  aaaa
          HASH     OK   hhhh
CPU-RAM            OK
PROGRAM   VERSION  aaaa
          HASH     OK   hhhh
RAM       2M       OK
DPRAM     2K       OK
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

Figure 6.3.1.2 Self-diagnosis Data (Installed with a I-FAX NIC option and G4 option.)

6.7 Sensor Calibration Test

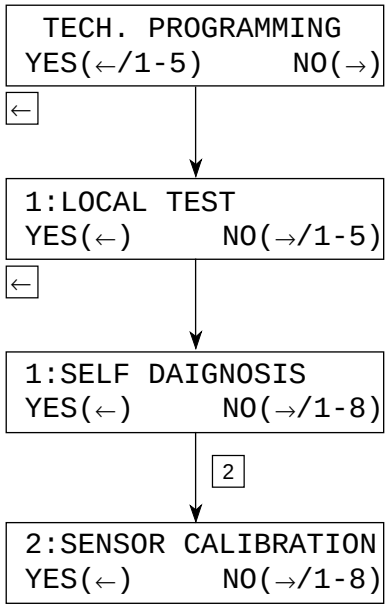
1. Purpose

To adjust the linearity of output levels of contact image sensor.

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in the memory)
- Press ← key.
- Press ← key.
- Enter "2".

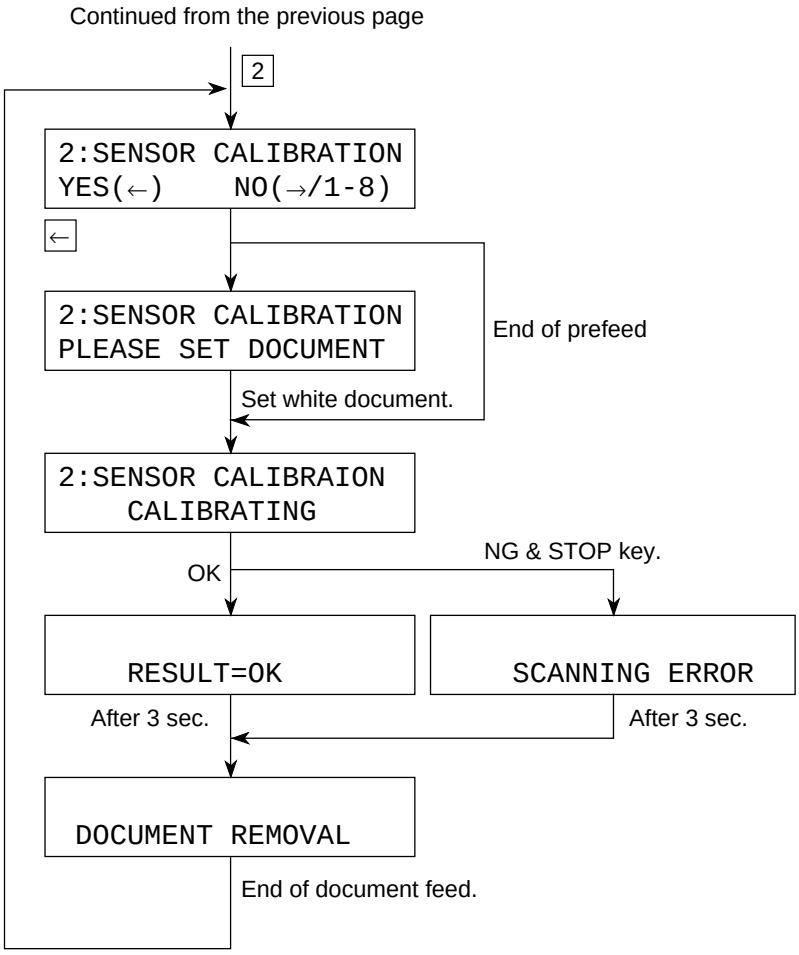
The display shows:



Operations:

- Enter "2".
- Press ← key.
- Load document(s).
  For adjustment of levels, use white plain bond paper(s) of NA Letter or A4 size.
- Observe and check the document feed operation.
  Check that the followings do not occur:
  Document skew.
  Multiple document feeding.
  No feeding.

The display shows:



Note: After adjustment of levels, check the copy quality by copying test charts or documents.

6.8 LEDs Test

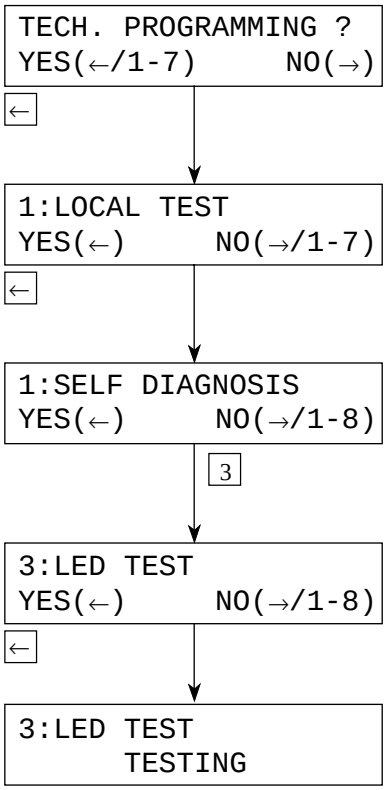
1. Purpose

To check all LEDs on operation panel by lighting.

2. Procedure

Operations: **The display shows:**

- To bring the LCD up to the desired message, press SELECT FUNCTION key once and COPY key twice in the standby mode. (In case of no message in memory)



- Press ← key.
- Press ← key.
- Enter "3".
- Press ← key.
- Observe and check that LEDs are blinking.
  - All LEDs will be sequentially turned on for one second in the following order.

(Start)

→ ALARM → DARK → NORMAL → LIGHT → STD → FINE →
all LED off ← all LED on ← PHOTO ← EX.FINE ←

1 second interval.

- After the checking, press STOP key.

6.9 Tone Send Test

1. Purpose

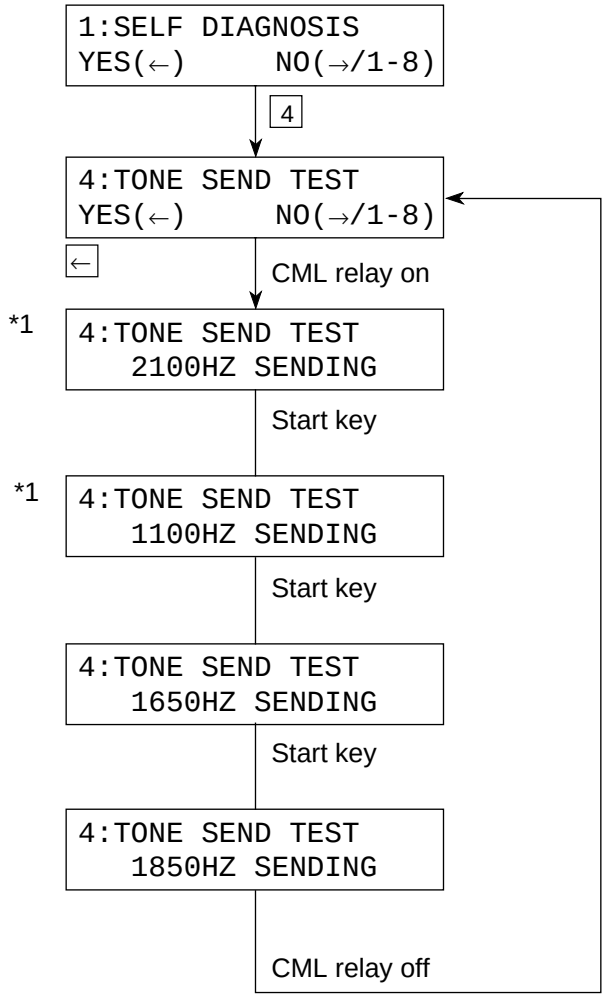
To send the G3 tonal frequencies to the line.

2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and ← key twice. (In case of no message in memory)
- Enter "4".
- Press ← key.
- After the checking, press STOP key or end of the transmission.

The display shows:



*1: When indicating "2100Hz, 1100Hz, 1650Hz or 1850Hz SENDING", these tests are continued till START key or STOP key is pressed.

6.10 High-speed Modem Send Test

1. Purpose

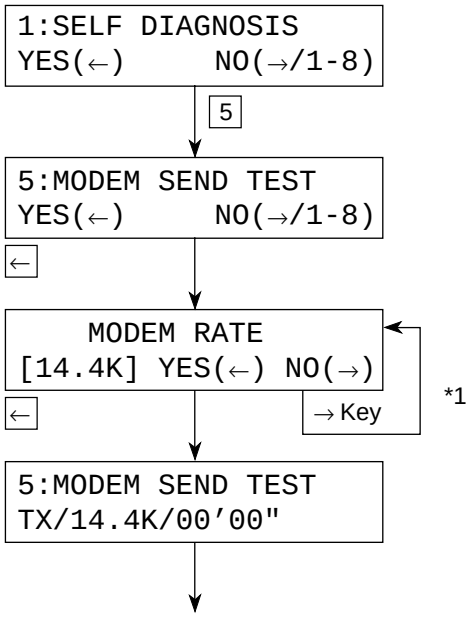
To check the telephone line quality in combination with a remote station programmed to the high-speed modem receive test mode.

2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter "5".
- Press [←] key.
- Set MODEM rate by [→] key.
- Press [←] key.
  All zero data will be continuously sent.
- After the test, press STOP key.

The display shows:



(For detail, see Figure 6.4)

*1: → 33.6K → 28.8K → 14.4K → 12.0K → 9.6KT (V.17) → 7.2KT (V.17) →
← 0.3K ← 2.4K ← 4.8K7.2K (V.29) ← 9.6K (V.29)

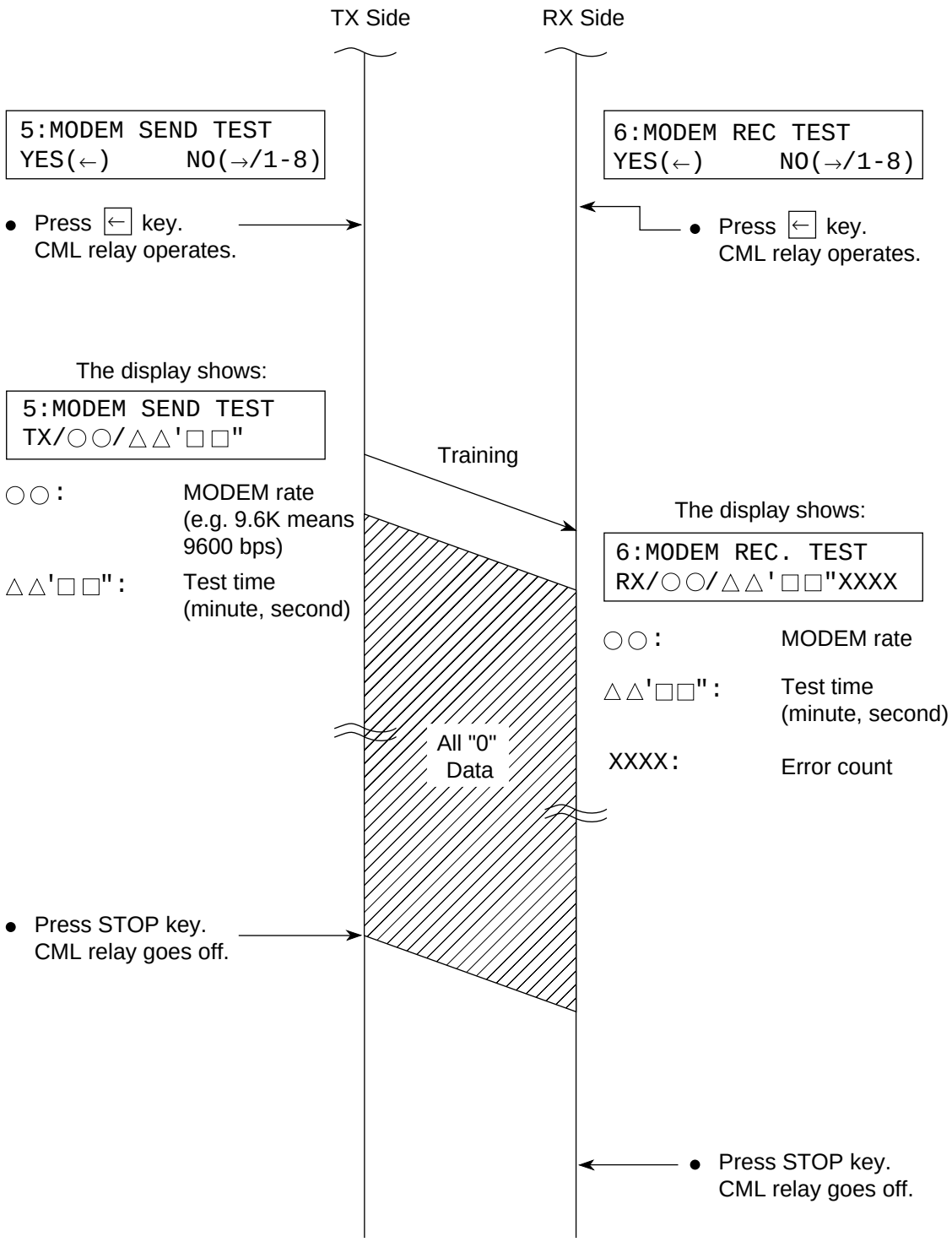


Figure 6.4 High-speed Modem Send and Receive Test

6.11 High-speed Modem Receive Test

1. Purpose

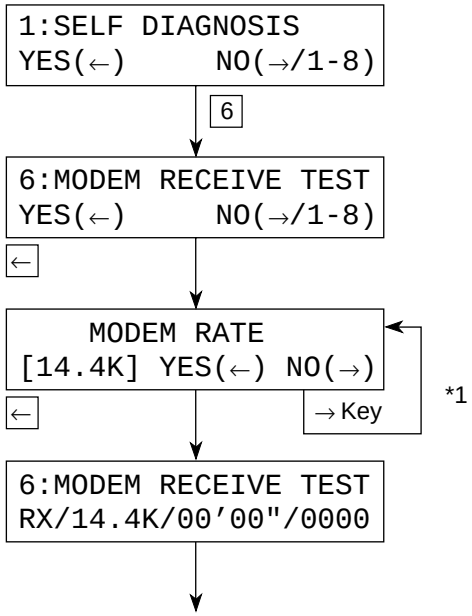
To check the telephone line quality in combination with a remote station programmed to the high-speed modem send test mode.

2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter 6.
- Press [←] key.
- Set MODEM rate by [→] key.
- Press [←] key.
- After the test, press STOP key.

The display shows:



(For detail, see Figure 6.4)

*1: → 14.4K → 12.0K → 9.6KT (V.17) → 7.2KT (V.17) → 9.6K (V.29) → 7.2K (V.29) → 4.8K → 2.4K →

6.12 MF Send Test

1. Purpose

To send the multi-frequencies of tone dialling to the line.

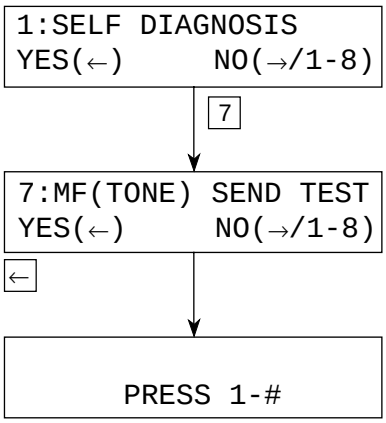
2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter 7.
- Press [←] key.
- Press 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, * or # key.
  MF tone corresponding to the key pressed will be sent until the next key is pressed.
- After the test, press STOP key.
  Frequencies of MF tones are as follows:

1	697 Hz/1209 Hz
2	697 Hz/1366 Hz
3	697 Hz/1477 Hz
4	770 Hz/1209 Hz
5	770 Hz/1366 Hz
6	770 Hz/1477 Hz
7	852 Hz/1209 Hz
8	852 Hz/1366 Hz
9	852 Hz/1477 Hz
0	941 Hz/1366 Hz
*	941 Hz/1209 Hz
#	941 Hz/1477 Hz

The display shows:



6.13 Tone (TEL/FAX)

1. Purpose

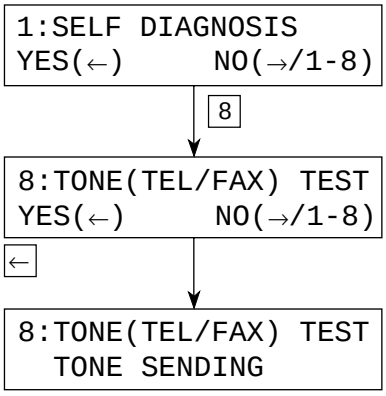
To check the pseudo-ring back tone of TEL/FAX automatic switching.

2. Procedure

Operations:

- To bring the LCD up to the desired message, press SELECT FUNCTION key once, COPY key twice and [←] key twice. (In case of no message in memory)
- Enter 8.
- Press [←] key.
- After the test, press STOP key.

The display shows:



6.14 Protocol Dump Data Printing

1. Purpose

To analyze the transmitted/received G3 protocol signals.

2. Procedure

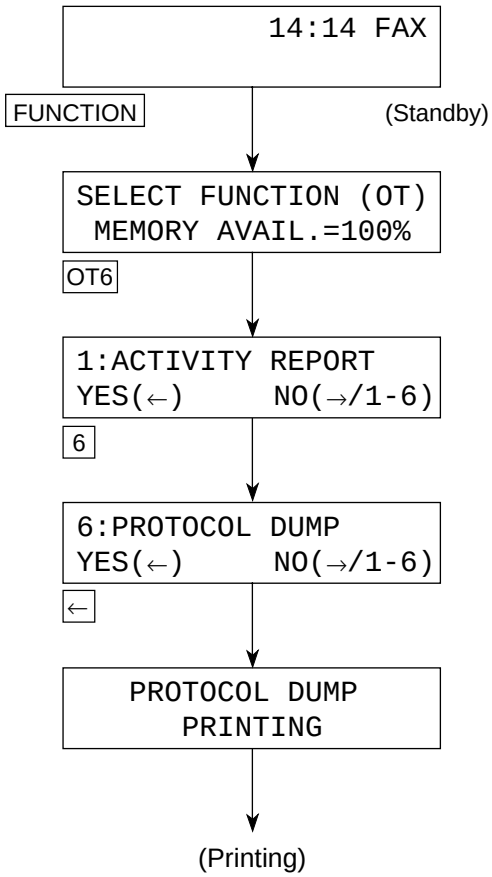
- Manual print-out of the last communication.

(a) Manual print-out

Operations:

- Press SELECT FUNCTION key, provided that the service bit is ON.
- Press one-touch key No.6
- Enter 6.
- Press ← key.

The display shows:



6.14.1 G3 Protocol Dump

Purpose:

To allow the serviceman to obtain a list of protocol signals transferred between the transmitter and receiver.

Print conditions:

- Modem trace information for each TX/RX is printed. (Informeation for RX is added on 2nd page.)
- Modem result code is printed.
- JM information is moved in the arrangement of CM information.
- "00" is printed always since the received SID on the 2nd page is invalid.

Method:

The report will be manually printed out for maintenance purpose. If the previous communication is G3, G3 communication protocol dump is printed out. If it is G4, the G4 communication protocol dump is printed.

1. Title of the report
2. Date and time when the report was printed
3. Sender ID
4. Date of communication
5. Time of communication
6. One message transmission/reception time
7. Identification of remote station
   • CSI and/or telephone number
8. Mode of transmission/reception according to ITU-T designation
9. Total number of pages in communicaiton
10. Identification of the result of the communication
11. Service code
12. TX: DIS/DTC/DCS/NSF/NSS/NSC
13. Transmitted telephone number
14. Transmitted SEP/SUB
15. Transmitted SID
16. Common information of ITU-T V.34 TX/RX
17. Modem trace
18. RX: DIS/DTC/DCS/NSF/NSS/NSC (page 2)
19. Received telephone number
20. Received SEP/SUB (page 2)
21. Received SID (page 2)
22. Common information of ITU-T V.34 TX/RX (page 2)
23. Modem trace (page 2)

G3 Protocol Dump Image

PROTOCOL DUMP P1

12/24/2003 19:00
ID=OKI TAKASAKI

DATE	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
12/24	18:56	00'33"	12345678901234567890 1234	TX	002	OK 0000

FCF

TX		NSS	PPS_MPS	PPS_EOP	DCN
RX	NSF DIS	CFR	MCF	MCF	
TX					
RX					
TX					
RX					
TX					
RX					

TRANSMITTED FRAME

DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DIS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
FF C8 C4 00 00 84 80 30 40 E4 10 40 B8 39 20 0C 0C 0C 0C 30 82 4A AA 82 42 92 12 CA 04 92 D2 F2
80 40 80 10 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM JM
00 00 00 00 00 00 00 00

SYMBOL RATE(SPS) =
DATA SIGNALLING RATE(BPS) =

MODEM TRACE
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

Figure 6.5 (1/2) Protocol Dump Report (G3)

PROTOCOL DUMP P2

12/24/2003 19:00
ID=OKI TAKASAKI

```
RECEIVED FRAME

DIS
FF C8 01 00 73 17 22 00 00 00 00 00 00 00 00 00 00 00 00
DTC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
DCS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
NSF
FF C0 04 00 00 84 80 08 40 F4 10 40 F9 7D 20 0C 0C 0C 0C 90 F2 52 72 F2 12 04 92 D2 F2 80 F0 80
40 80 50 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSS
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
NSC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00
CSI/CIG/TSI
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SEP/SUB
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
SID
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
V34
CM              JM
00 00 00 00     00 00 00 00
```

Figure 6.5 (2/2) Protocol Dump Report (G3)

6.14.2 G4 Protocol Dump

Purpose:

To allow the serviceman to obtain a list of protocol signals transmitter and receiver.

Method:

The report will be manually printed out for maintenance purpose.
If it is G4, the G4 communication protocol dump is printed out.

1. Title of the report
2. Date and time when the report was printed
3. Sender ID
4. Date of communication
5. Time of communication
6. One message transmission/reception time
7. Identification of remote station
   • CSI and/or telephone number
8. Mode of transmission/reception according to ITU-T designation
9. Total number of pages in communicaiton
10. Identification of the result of the communication
11. Service code
12. D channel
13. B channel
14. COMMN MODE
15. COMMN SPEED
16. FLOW CONTROL PARAM.
17. TID
18. SETUP
19. DISC
20. CR/CN, CA/CC, CQ/CI, RQ/RI, SQ/SI (page 2)
21. TBR/TCC/TCR/TCA (page 2)
22. CSS (page 2)
23. RSSP/RSSN (page 2)
24. CD/CL (page 2)
25. RDCLP (page 2)
26. CDS (page 2)
27. CDUI (page 2)

Protocol Dump

The printing image is as follows:

PROTOCOL DUMP P1

08/25/2003 19:00
ID=OKI TAKASAKI

DATA	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
04/19	14:49	00’07"	OKI SHIBAURA(6412)	TX-G4	02	OK 0000

Dch.

```
TX | SETUP                      CONN-ACK +Bch+ DISC    REL-C
RX |      STATUS SETUP-ACK CONN         +Bch+     REL

TX |
RX |
```

Bch.

```
TX | SABM   SQ   CR   TCR   CSS    CDCL     CDS CDUI CDPB     CDUI CDPB      CDUI CDPB     CDUI
CDUI
RX |      UA   SF   CC    TCA   RSSP    RDCLP             RDPBP          RDPBP           RDPBP

TX | CDE     CQ   DISC
RX |    RDEP   CF     UA

TX |
RX |

TX |
RX |
```

COMMN MODE
T.90

COMMN SPEED
64 kbps

FLOW CONTROL PA RAM.
2048(SPS)/7(SWS)/2048(RPS)/7(RWS)

TID
081-0273242117 =OKITAKASAKI

SETUP

```
08 01 05 05 04 02 88 90 6C 02 00 80 70 0B 80 30 32 37 33 32 38 30 30 30 31 7C 03 88 90 A9 7D 02
91 A1 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

DISC
45 16

Figure 6.7 (1/2) Protocol Dump P1 (G4)

PROTOCOL DUMP P2

```
CR/CN
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CA/CC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CQ/CI
00 00 00 00 00

RQ/RI
00 00 00 00 00

SQ/SI
00 00 00 00 00

TBR
 00

TCC
00

TCR
09 E0 00 00 00 01 00 C0 01 0B 00 00 00 00 00 00

TCA
09 D0 00 01 00 01 00 C0 01 0B 00 00 00 00 00 00

CSS
0D 6F 01 2A 0A 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 37 2D 30 38 2D 32 37 2D 31 34 2D 34 34 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 2F 00 01 79 00 E0 1C C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 C4 04
30 30 30 30 E1 0B E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RSSP/RSSN
0E 69 01 2A 09 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 38 2D 30 36 2D 30 32 2D 31 33 3A 34 36 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 29 00 01 79 00 E0 16 C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 E1 0B
E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

CDCL
3D 58 12 01 3C C1 4D A4 4B 80 01 02 81 01 00 A2 3C A2 32 30 08 80 02 26 C0 81 02 36 CE 30 08 80
02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C 30 08 80 02 2E 23 81 02 41 25 30 08 80 02 36
CE 81 02 4D 80 A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0 01 01 E8 04 00 01 49 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RDCLP
3E 40 C1 3E A4 3C 80 01 02 81 01 00 A2 25 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30 08 80 02 2F 6C
81 02 43 2C 30 08 80 02 2F 6D 81 02 43 2C A4 03 8B 01 04 E4 0D E0 06 02 01 02 02 01 03 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDS
2D 40 29 03 30 30 31 C1 39 A4 37 80 01 02 81 01 00 A2 28 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30
08 80 02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDUI
01 00 A2 03 02 01 00 A2 1B 02 01 02 31 16 A4 08 80 02 26 C0 81 02 36 CE A6 05 A1 03 82 01 01 E9
03 C0 01 00 A3 80 31 06 A2 04 80 02 06 C0 24 80 04 82 07 90 01 01 00 00 00 00 00 00 00 00 00 00
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

Figure 6.7 (2/2) Protocol Dump P2 (G4)

6.15 System Reset

1. Purpose

To clear or initialize the following data:

(a) Location data

(b) Configuration data (default)

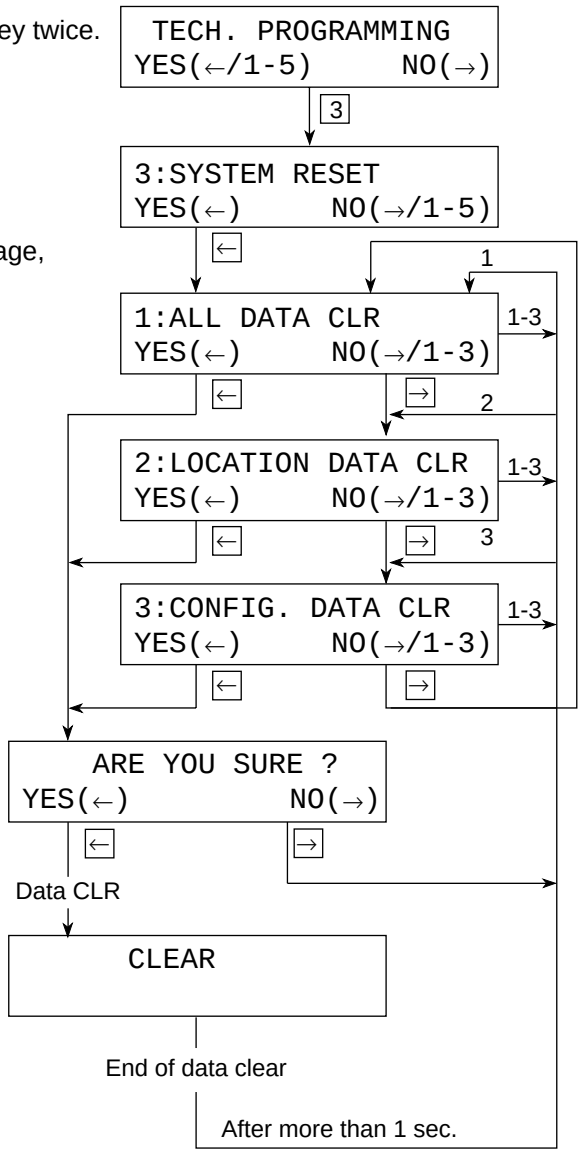
2. Procedure

Operations:

- Press SELECT FUNCTION key, COPY key twice. (In case of no message in the memory)
- Enter 3.
- To bring the LCD up to the desired message, press ← key and → key.

Note: ALL DATA CLEAR is to clear or initialize (a) to (b).

The display shows:



6.16 Service Codes

1) The service code can be printed on Activity Report to recognize the result of each communication.

2) The activity report indicates the code ”0000", should a communication terminates on normal status as a service code.

3) The activity report indicates one of the codes of “90XX”, should a communication terminates on abnormal status, as an error code.

4) Besides the above codes of “90XX”, the following codes are prepared for identifying an abnormal status in details.

-21XX: For error codes in Group 3 transmission phase B
-29XX: For error codes in Group 3 reception phase B
-39XX: For error codes in Group 3 reception phase C
-41XX: For error codes in Group 3 transmission phase D
-49XX: For error codes in Group 3 reception phase D
-90XX: Common error codes
-AEXX: ISDN Common error codes
-BBXX: ISDN Dch layer 2
-BAXX: ISDN Dch layer 3
-BCXX: ISDN Bch layer 2
-B2XX: ISDN Bch layer 3
-B7XX: ISDN Bch layer 4
-B9XX: ISDN Bch layer 5
-B8XX: ISDN Bch layer 6

6.16.1 G3 Service Code List

Table 6.3 (1/3) Service Codes List

Code	Description
0000	Successful end of communication.
1080	STOP key has been pressed while calling a remote fax.
10A2	Busy tone detected.
14C0	Dial tone not detected.
14C1	Line current not detected.
14C2	Calling-and-waiting for line connection time out.
14C3	Dialling limit time out.
14D0	DTMF tone “D” is received from the Fax2Net Server.
14D1	Wait time out upon DTMF tone “A” is not received from the Fax2Net Server.
14D2	Wait time out upon DTMF tone “B” or “D” is not received from the Fax2Net Server.
21A0	Received signal other than DIS/DTC.
21A1	Contents of received DIS/DTC are faulty.
21A3	Each time there is no response from the receiver for sending TCF three times.
21A4	TCF fall back is not possible.
21A5	Received signal other than the desired signal in response to sending TCF.
21B0	Transmitter tried to transmit by confidential transmission function but the remote fax has not the capability of confidential reception.
21B1	Transmitter tried to transmit by Broadcast Initiate function but the remote fax has not the broadcast capability.
21C0	In Closed Network setting, TSI/CIG/CSI is either not received or, if received, it is not authorized one.
21E0	Contents of CM/JM are faulty at transmission side.
21E1	Phase 2 time out at transmission side.
21E2	Phase 3 time out at transmission side.
21E3	Training time out of phase B control channel at transmission side.
29B6	In Confidential Reception, the mail box specified by transmitter is not set up and open.
29B7	In Relay Broadcast Reception, the specified group number is erroneous.

Table 6.3 (2/3) Service Codes List

Code	Description
29C1	In closed Network setting, TSI/CSI is either not received or, if received, it is not authorized one.
29E0	Contents of CM/JM are faulty at receive side.
29E1	Phase 2 time out at receive side.
29E2	Phase 3 time out at receive side.
29E3	Training time out of phase B control channel at receive side.
29F1	In Relay Broadcast Reception, the relay password is unmatched.
39A0	The number of continuous-error lines have exceeded the specified limit.
39A1	The number of random-error lines have exceeded the specified limit.
39B0	Memory Overflow has occurred while receiving in memory.
39B1	Memory Overflow occurred during Confidential Reception.
39B2	Memory overflow occured during Relay Broadcast Reception.
39C0	DECODER hardware error. (cannot reproduce picture)
39C1	DECODER hardware error. (cannot detect end of picture)
41A0	There was no response each time in response to the three post commands.
41A6	Received signal other than the desired signal in responce to the post command.
41A9	Fall back in Phase C is not possible.
41C8	T5 time out.
41CE	Received negative signal in response to the post command.
41E0	Control chanel data. Time out in Phase D.
49CC	Received signal other than the desired signal in response to RNR.
49CD	Command not received in response to RNR.
49CF	In Relay Broadcast Reception, reception is interrupted due to defective image quality.
49E0	Data time out of
49E1	Fall back in Phase C is not possible.
60A0	Broadcast completed.
6803	DCN received in response to NSF/DIS without sending a single picture.
9080	Pressed STOP key.
9081	T1 time out.
9082	T2 time out.

Table 6.3 (3/3) Service Codes List

Code	Description
9083	T3 time out.
9084	No recording paper.
9087	Document jam.
9088	60-minute or 70-minute time out.
9089	Document length has exceeded its maximum limit.
908E	Recording paper jam.
9090	Received DCN.
909D	Telephone number to be called to the Fax2Net is the wrong number.
90B1	Picture memory hash error.
90C1	Document removed prior to transmission.
90C6	Normal or error-free lines not received for 13 seconds.
90C7	Error frame protocol received.
90D4	Hardware error in transmission system. (response of modem not detected)
90D5	ENCODER error. (Picture storage fault)
90F0	Option (2'nd tray) error.
90F1	Fan motor error.
90F2	Fuser error.
90F3	Recording paper size error.
90F4	Cover open.

6.16.2 G4 Service Code Lists

Table 6.4 (1/3) G4 Service Code Lists

Classification	Code	Description
Dch layer 2	BB02	LSI NG
	BB05	TEI release by network
	BB06	TEI verification procedure failure
Dch layer 3	BA01	Unallocated (unassigned) number
	BA02	No route to specified transit network
	BA03	No route to destination
	BA06	Channel unacceptable
	BA07	Call awarded and being delivered in an established channel
	BA10	Procedure sequence error, Line disconnected during in-band procedure
	BA11	User busy
	BA12	No user responding
	BA13	No answer from user (user alerted)
	BA15	Call rejected
	BA16	Number changed
	BA1A	Non-selected user clearing
	BA1B	Destination out of order
	BA1C	Invalid number format
	BA1D	Facility rejected
	BA1E	Response to STATUS-ENQUIRY
	BA1F	Normal, unspecified
	BA22	No circuit/channel available
	BA26	Network out of order
	BA29	Temporary failure
	BA2A	Switching equipment congestion
	BA2B	Access information discarded
	BA2C	Requested circuit/channel not available
	BA2F	Resources unavailable, unspecified
	BA31	Quality of service unavailable
	BA32	Requested facility not subscribed
	BA39	Bearer capability not authorized
	BA3A	Bearer capability not presently available
	BA3F	Service or option not available, unspecified
	BA41	Bearer capability not implemented
	BA42	Channel type not implemented
	BA45	Requested facility not implemented
	BA46	Only restricted digital information bearer capability is available
	BA4F	Service or option not implemented, unspecified
	BA51	Invalid call reference value
	BA52	Identified channel does not exist
	BA53	A suspended call exists, but this call identity does not
	BA54	Call identity in use
	BA55	No call suspended
	BA56	Call having the requested call identity has been cleared
	BA58	Incompatible destination
	BA5B	Invalid transit network selection
	BA5F	Invalid message, unspecified
	BA60	Mandatory information element is missing
	BA61	Message type non-existent or not implemented
	BA62	Message not compatible with call state or message type non-existent or not implemented
	BA63	Information element non-existent or not implemented
	BA64	Invalid information element contents
	BA65	Message not compatible with call state
	BA66	Recovery on timer expiry
	BA6F	Protocol error, unspecified
	BA7F	Interworking, unspecified
	BB01	CONN message wait time out
	BB07	Reset request by network

Table 6.4 (2/3) G4 Service COde Lists

Classification	Code	Description
Bch layer 2	BC02	N2 times time out
	BC03	FRMR reception
	BC04	FRMR transmission
	BC05	The other party link disconnection
	BC08	T3 time out
	BD01	SABME wait time out
Bch layer 3	B201	The other party terminal busy
	B203	Incorrect facility request
	B205	Network congestion
	B209	Connection impossible (failure or absent)
	B210	Packet that is not adaptable to status transition (Packet level ready state)
	B211	Remote procedure error
	B212	Packet that is not adaptable to status transition (DTE restart request state)
	B213	Local procedure error
	B214	Packet that is not adaptable to status transition (Empty state)
	B215	Packet that is not adaptable to status transition (CO packet wait)
	B216	Packet that is not adaptable to status transition (CA packet wait)
	B217	Packet that is not adaptable to status transition (During data transmission)
	B218	Packet that is not adaptable to status transition (Outgoing/incoming collision)
	B219	Packet that is not adaptable to status transition (CQ packet)
	B221	Unallowable packet (Packet type not clear)
	B222	Unallowable packet (Call by special incoming logic channel)
	B226	Unallowable packet (Too short packet)
	B227	Unallowable packet (Too long packet)
	B229	Unallowable packet (Restart packet in which LCN or LCGN is not 0)
	B22A	Unallowable packet (Packet that is not adaptable to the facility)
	B231	Timer time out (CA packet wait time out)
	B232	Timer time out (CF packet wait time out)
	B233	Timer lapsed (RR/RNR packet wait time out)
	B241	Call setting problem (unallowable facility code)
	B242	Call setting problem (unallowable facility parameter)
	B243	Call setting problem (incoming address is invalid)
	B244	Call setting problem (outgoing address is invalid)
	B245	Call setting problem (invalid facility length)
	B246	Call setting problem (call termination reject)
	B247	Call setting problem (No empty logic channel)
	B248	Call setting problem (outgoing/incoming collision)
	B249	Call setting problem (overlapped facility request)
	B24A	Call setting problem (address length other than zero)
	B24B	Call setting problem (facility length other than zero)
Bch layer 4	B702	Reception TDT length over
	B703	TDT length negotiation unsuccessful
	B704	Invalid block received
	B705	Abnormal parameter received
	B706	Illegal block received
	B707	TCR wait time out (T0.2 T.O)
	B708	TCA wait time out (T1.1 T.O)
	B709	Communication interruption due to TCC reception
	B70A	Communication interruption due to TBR reception

Table 6.4 (3/3) G4 Service COde Lists

Classification	Code	Description
Bch layer 5	B901	Command response reception error
	B902	Non-implicit command response received
	B903	Lack of essential parameter
	B904	Invalid parameter reception
	B905	Invalid parameter value reception
	B906	Window size over reception
	B907	Document reference number error
	B908	Length illegal
	B909	Check point error
	B90A	Unallowable document
Bch layer 6	B801	Command response reception error
	B802	Parameter reception error
	B803	Negotiation unsuccessful RSSP reception
	B804	Negotiation unsuccessful RSSN reception
	B805	CSCC at the time when the transmission right cannot be reversed
	B806	CSA reception
	B809	Error recovery time out
	B80A	Time out at the time of termination
	B80B	Close wait time out
	B80C	CSE reception before close
Bch layer 7	AE01	Negotiation unsuccessful (requirement for communication with the other party FAX is not met)
	AE02	Negotiation unsuccessful (only the other party standard)
	AE03	The other party SUD fault
	AE04	Basic terminal function unmatched
	AE05	Switching type unmatched
	AE06	The other party TU fault

7. TROUBLESHOOTING AND REPAIR FOR FX-060VP

FX-060VP Extension cable lists

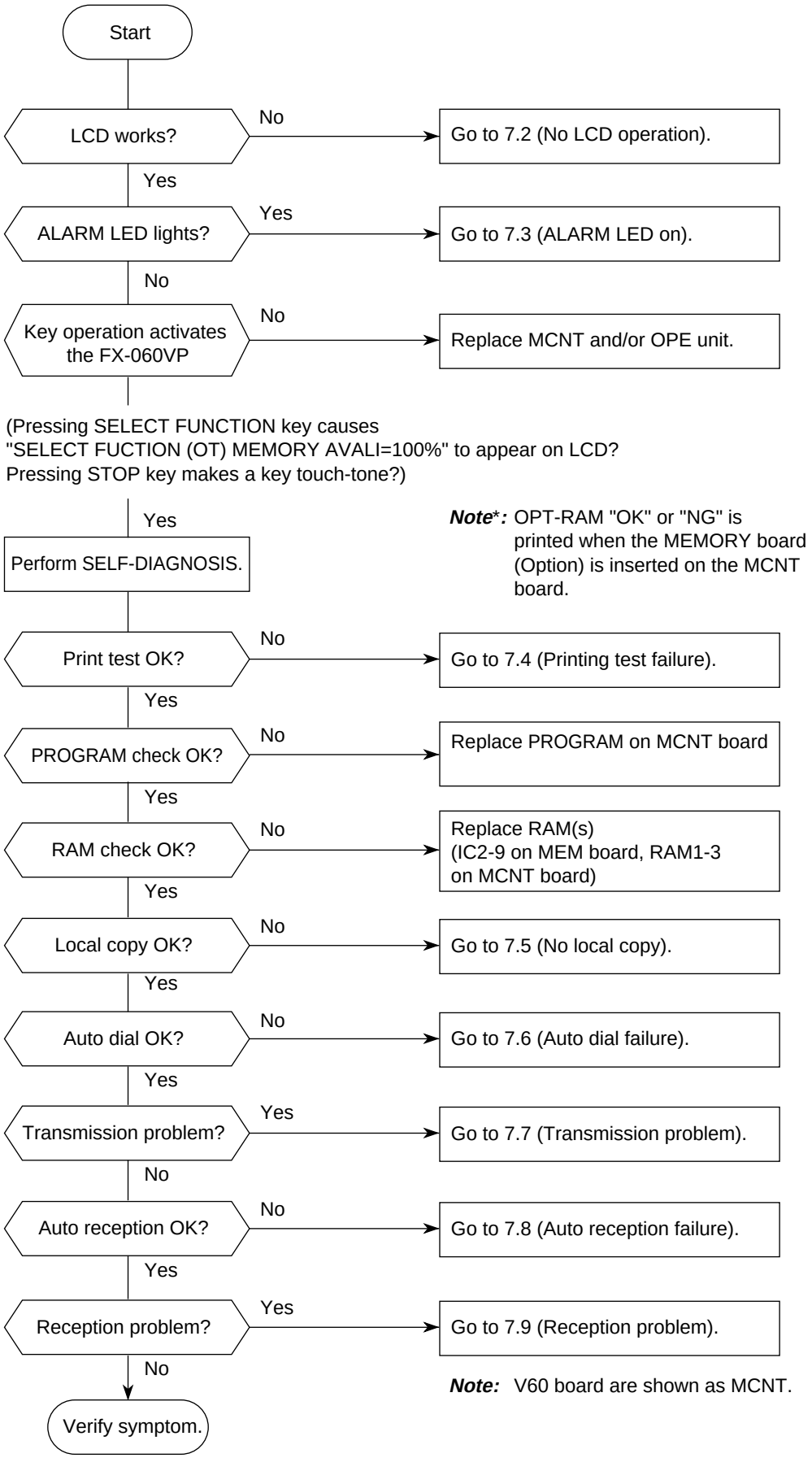
No.	Oki Parts Number	Description	Remarks	FX-060VP
1	4YS4111-5655P001	Extension cable (OPE)		•••
2	4YS4111-5656P001	Extension cable (Sensor)		○
3	4YS4111-5657P001	Extension cable (PC1, 2)		○
4	4YS4111-5658P001	Extension cable (Speaker)		○
5	4YS4111-5659P001	Extension cable (PWU)		○
6	4YS4111-5660P001	Extension cable (FAN)		○
7	4YS4111-5661P001	Extension cable (S-motor)		•••
8	4YS4111-5662P001	Extension cable (D-motor)		•••
9	4YS4111-5663P001	Extension cable (R-motor)		•••
10	4YS4111-5664P001	Extension cable (S-motor)		○
11	4YS4111-5665P001	Extension cable (D-motor)		○
12	4YS4111-5666P001	Extension cable (R-motor)		○
13	4YS4111-5667P001	Extension cable (2nd)		○
14	238A1071P0006	SUMI card (LED head)		○
15	40331401YS	Connection code; extension (OPE)	OPE/MCNT	○
16	40331501YS	Connection code; extension (MPSU)	MCNT/MPSU (Power)	•••
17	40331602YS	Connection code; extension (Heater)	HEATER AC/PSU	•••
18	40331801YS	Connection code; extension (Clutch)	CLUTCH/MCNT	•••
19	40332001YS	Connection code; extension	FUJI CARD: MCNT/HVPS	•••
20	40332201YS	Connection code; extension (SPSU)	SPSU (Sub-power)/MCNT	•••
21	40332301YS	Connection code; extension (PSU)	PSU (Power)/SPSU (Sub-power)	•••
22	40331901YS	Connection code; extension (Transformer)	Transformer/SPSU (Sub-power)	•••
23	40780201YS	Connection Flat (P6L)	MCNT/P6L	•••
24	4YS4111-5665P001	Extension cable (D-motor)	Applicable to S-motor	•••
25		Extension cable (D/R-motor)	Applicable to D/R-motor	•••
26	238A1071P0006	SUMI card (LED1)		•••
27	238A1071P0007	SUMI card (LED2)		•••
28		Extension cable (3.3V)	PSU (3.3V)	•••

This chapter contains:

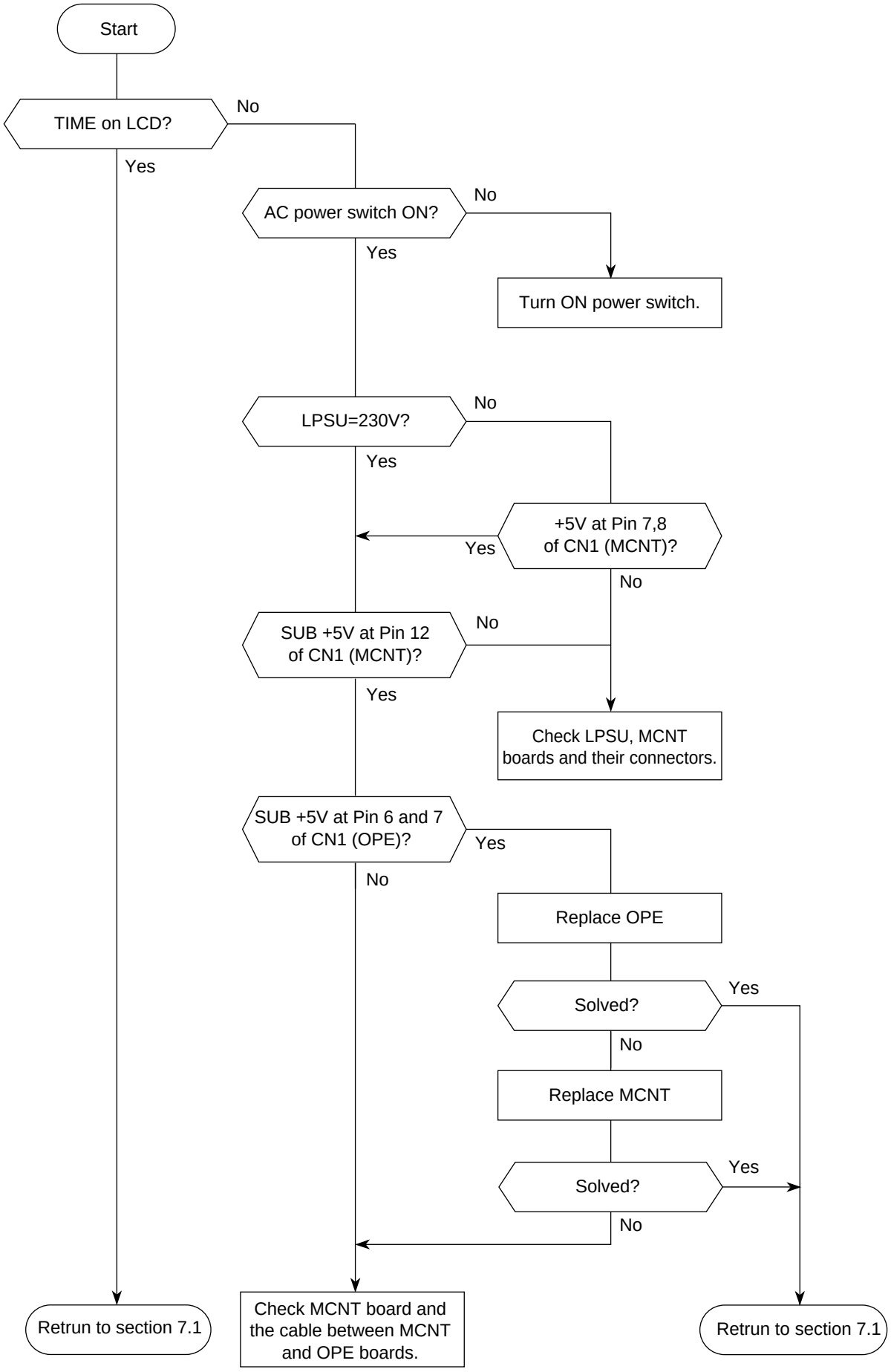
(a) Troubleshooting flow charts related to general operations
(b) Troubleshooting flow charts by test operations
(c) Troubleshooting flow charts placing an emphasis on mechanical portions

Section No.	Name of Flow Chart	(a)	(b)	(c)	Page
7.1	Overall troubleshooting flow chart	◯	◯		237
7.2	No LCD operation	◯			238
7.3	ALARM LED on	◯			239
7.4	Printing test failure	◯	◯		240
7.5	No local copy	◯	◯		241
7.6	Auto dial failure	◯			242
7.7	Transmission problem	◯			243
7.8	Auto reception failure	◯			245
7.9	Reception problem	◯			246
7.10	Sensor calibration test		◯		247
7.11	LED test		◯		248
7.12	Tone send test		◯		249
7.13	High-speed modem test		◯		250
7.14	MF (Tone) send test		◯		252
7.15	Tone (TEL/FAX) send test		◯		253
7.16	No acoustic line monitor	◯			254
7.17	Low power supply unit	◯			255
7.18	High power supply unit	◯			255
7.19	No document feeding			◯	257
7.20	Multiple document feeding			◯	258
7.21	Document skew			◯	259
7.22	Document jam			◯	261
7.23	Printer unit				262

7.1 Overall Troubleshooting Flow Chart

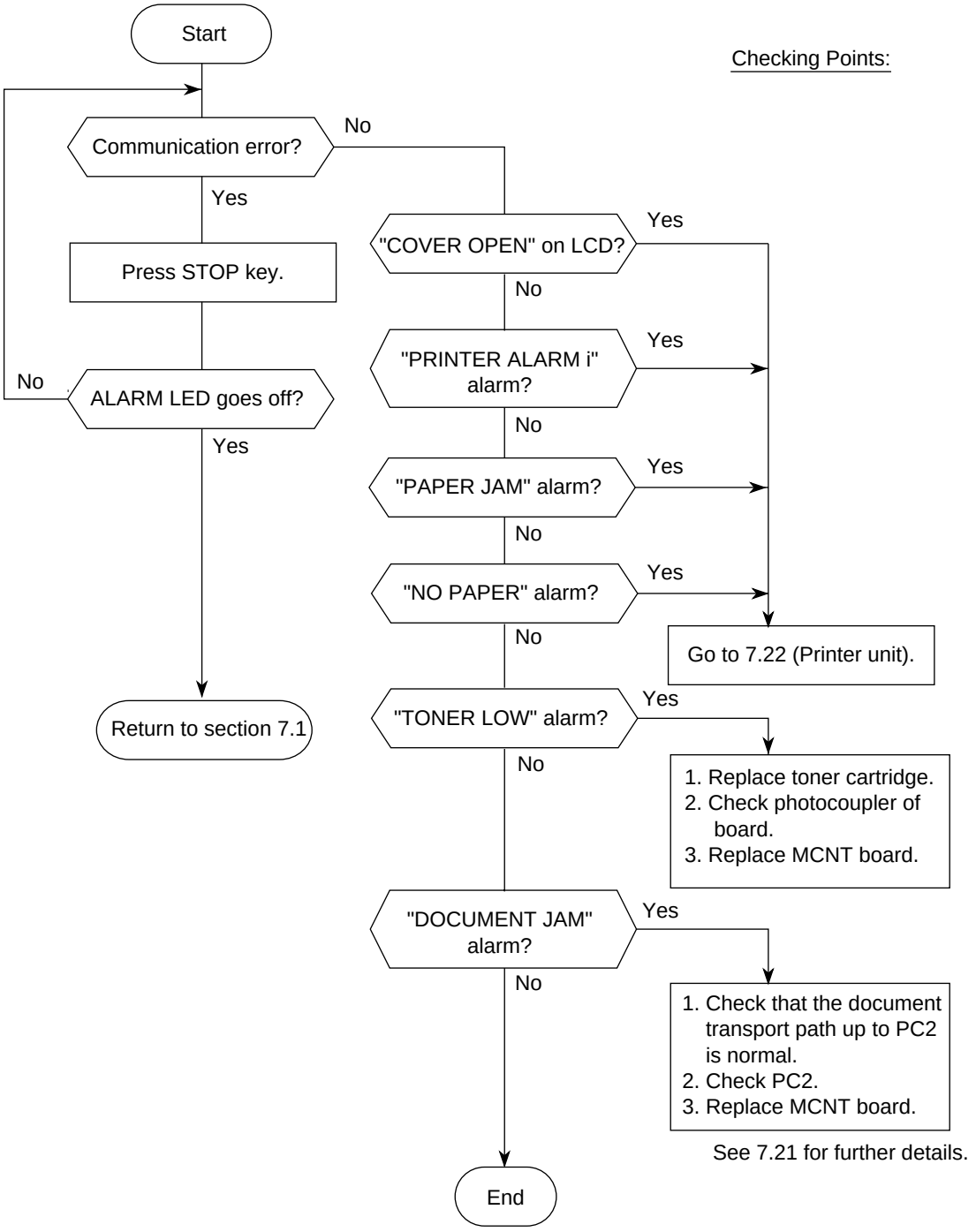


7.2 No LCD Operation



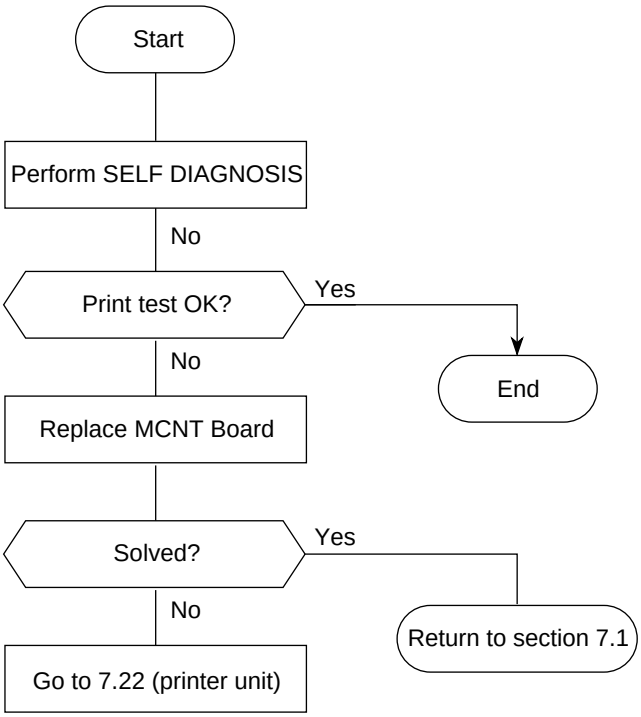
Note: P60 board are show as OPE.

7.3 ALARM LED On

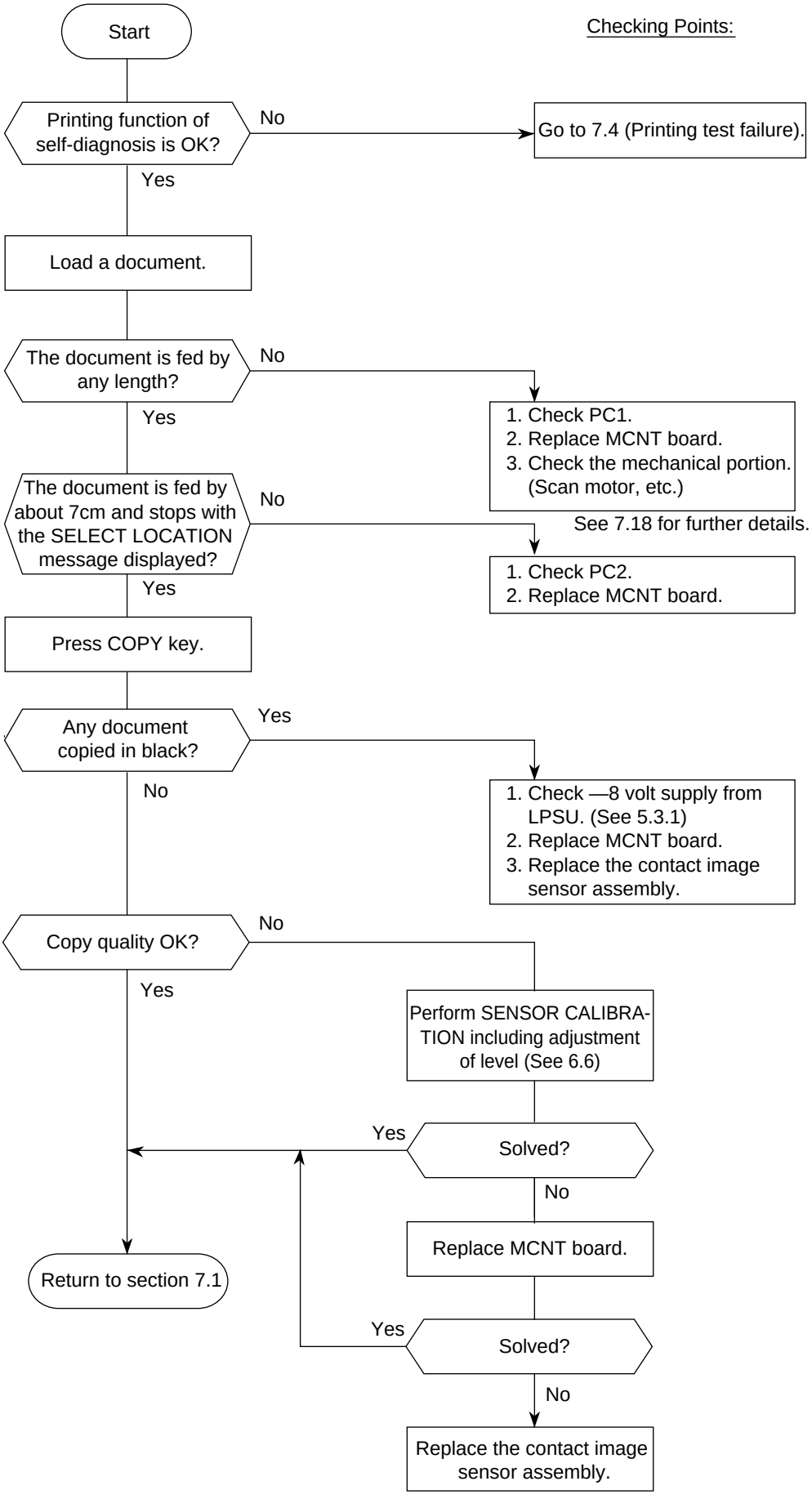


Note* : "PRINTER ALARM i" will be shown as follows:
PRINTER ALARM 2 to PRINTER ALARM 4.

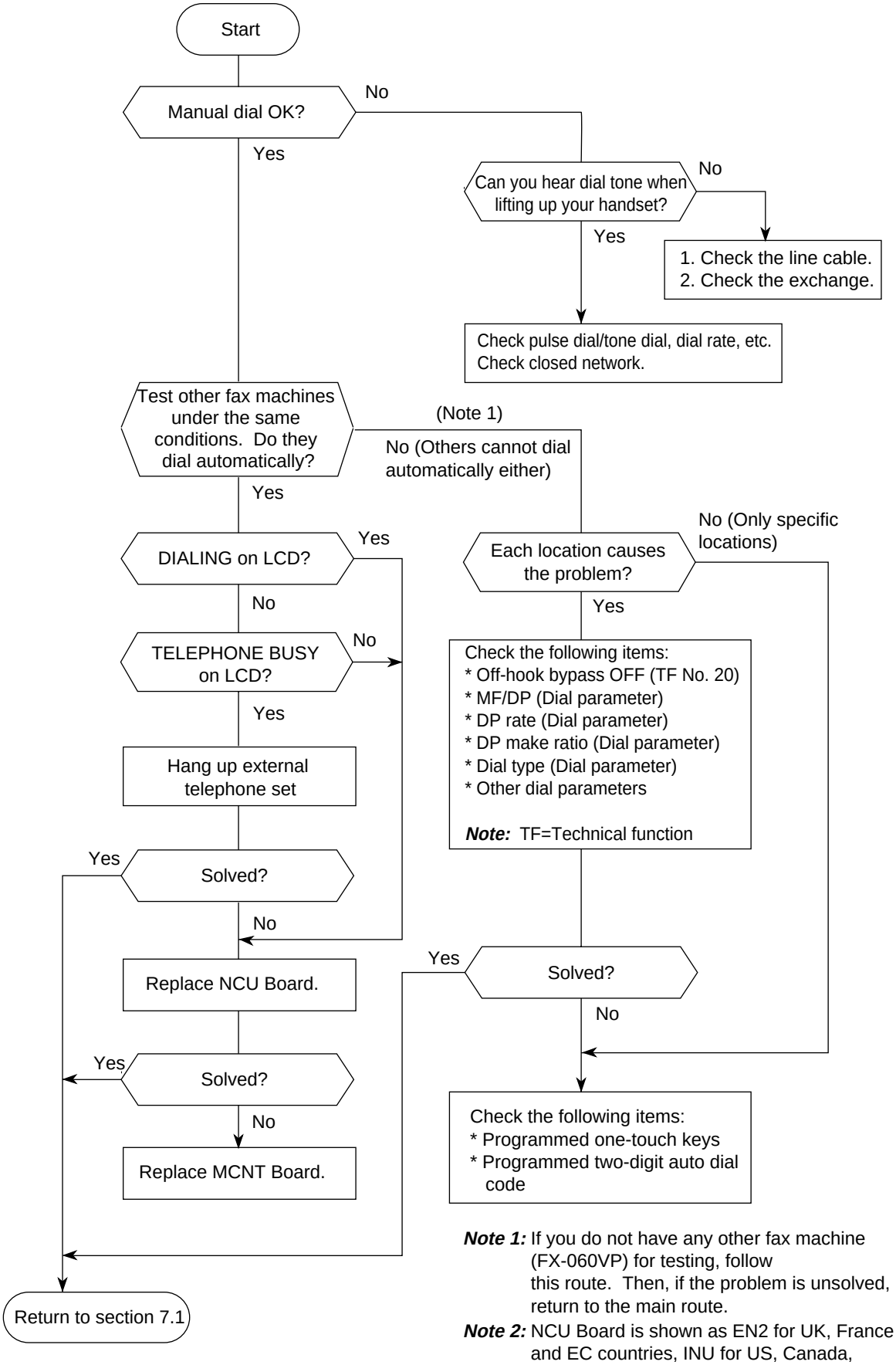
7.4 Printing Test Failure



7.5 No Local Copy



7.6 Auto Dial Failure

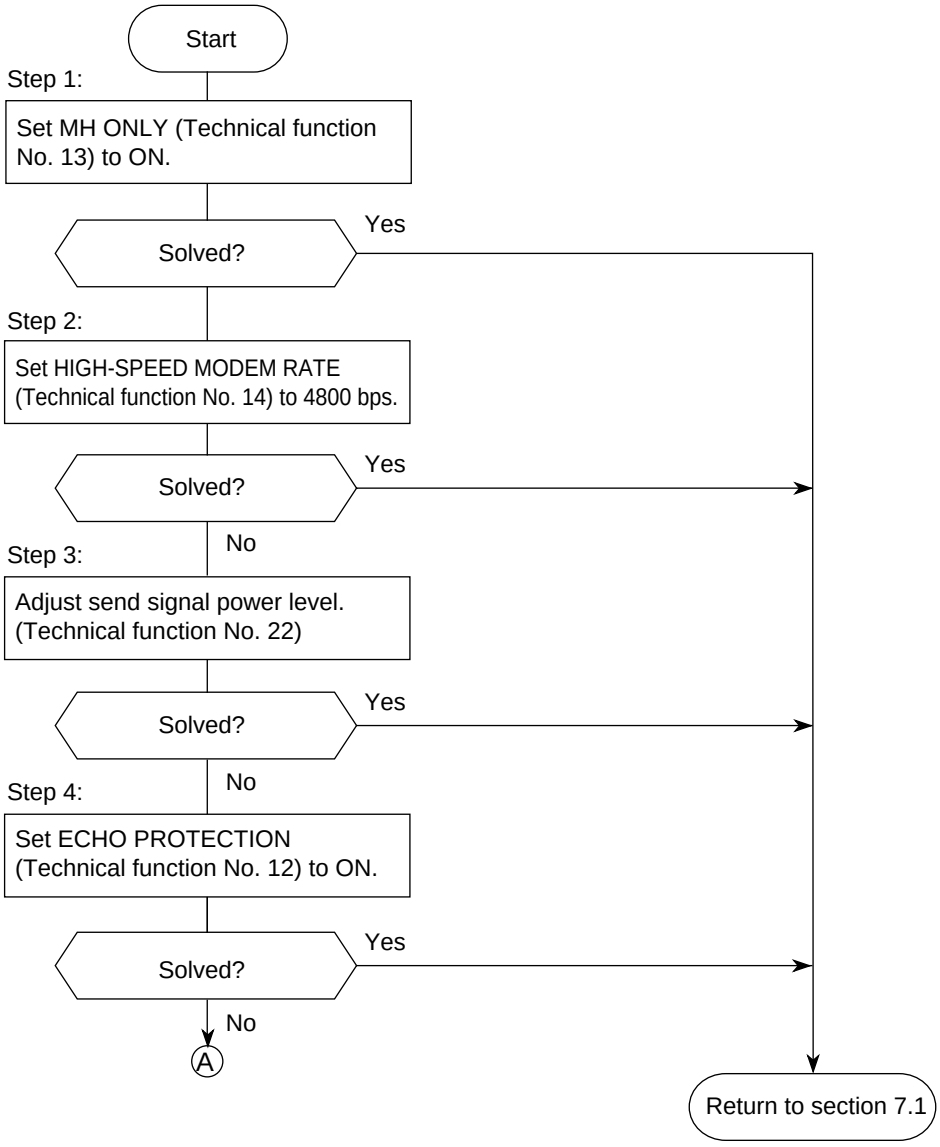


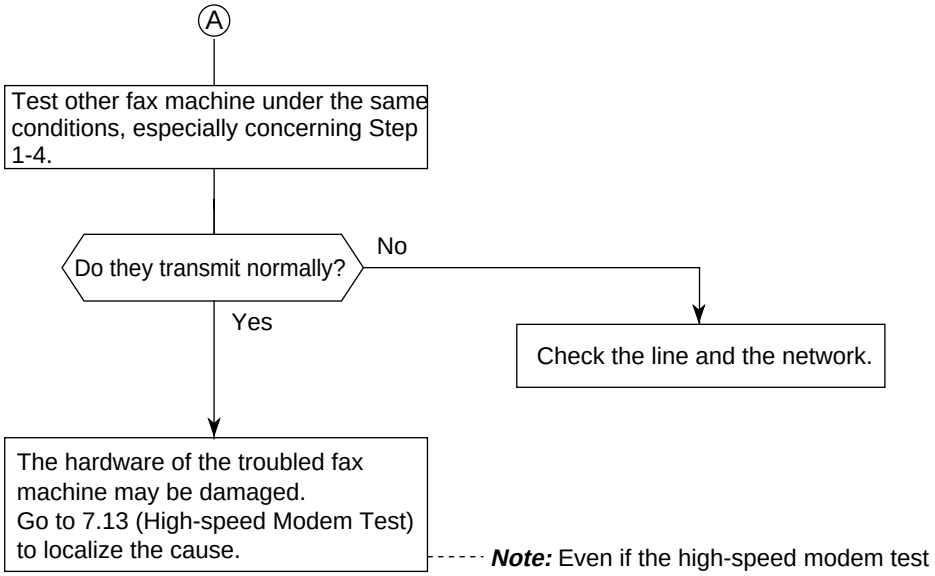
Note 1: If you do not have any other fax machine (FX-060VP) for testing, follow this route. Then, if the problem is unsolved, return to the main route.

Note 2: NCU Board is shown as EN2 for UK, France and EC countries, INU for US, Canada, Australlia, New Zealand, Singapore, Malayashija And new EC countries (Poland etc.)

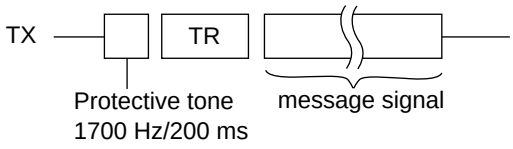
7.7 Transmission Problem

This section explains how to localize the cause of problems occurred after completion of connection with a remote station.

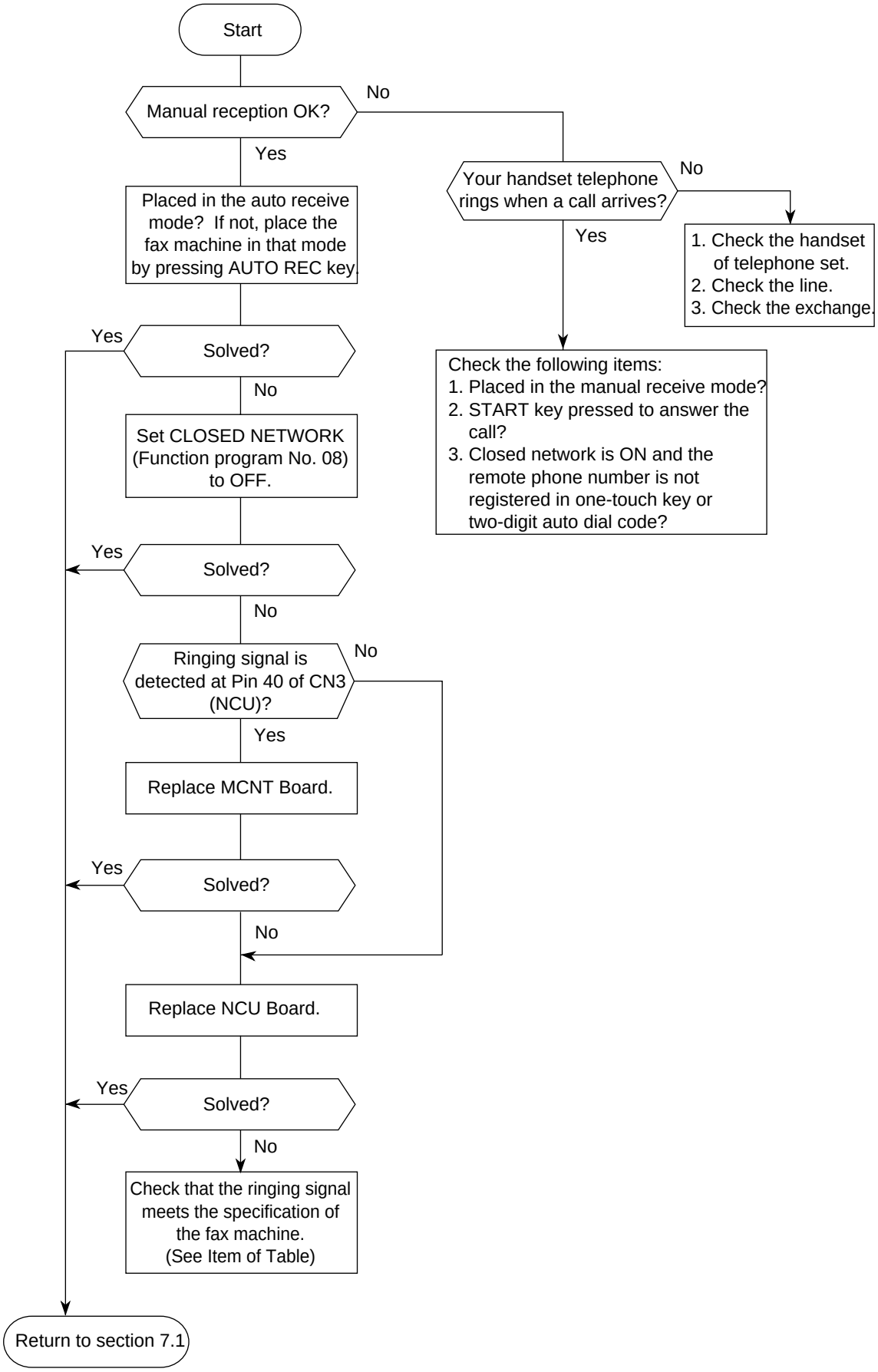



A
Test other fax machine under the same conditions, especially concerning Step 1-4.
Do they transmit normally?
No
Yes
Check the line and the network.
The hardware of the troubled fax machine may be damaged.
Go to 7.13 (High-speed Modem Test) to localize the cause.
Note: Even if the high-speed modem test results in success, 300 bps signal route remains unchecked. In that case, the most suspected unit is MCNT Board.

Description: Protective tone is 1700 Hz/200 ms.
This signal is added to training signal to protect the training signal against echo as follows.

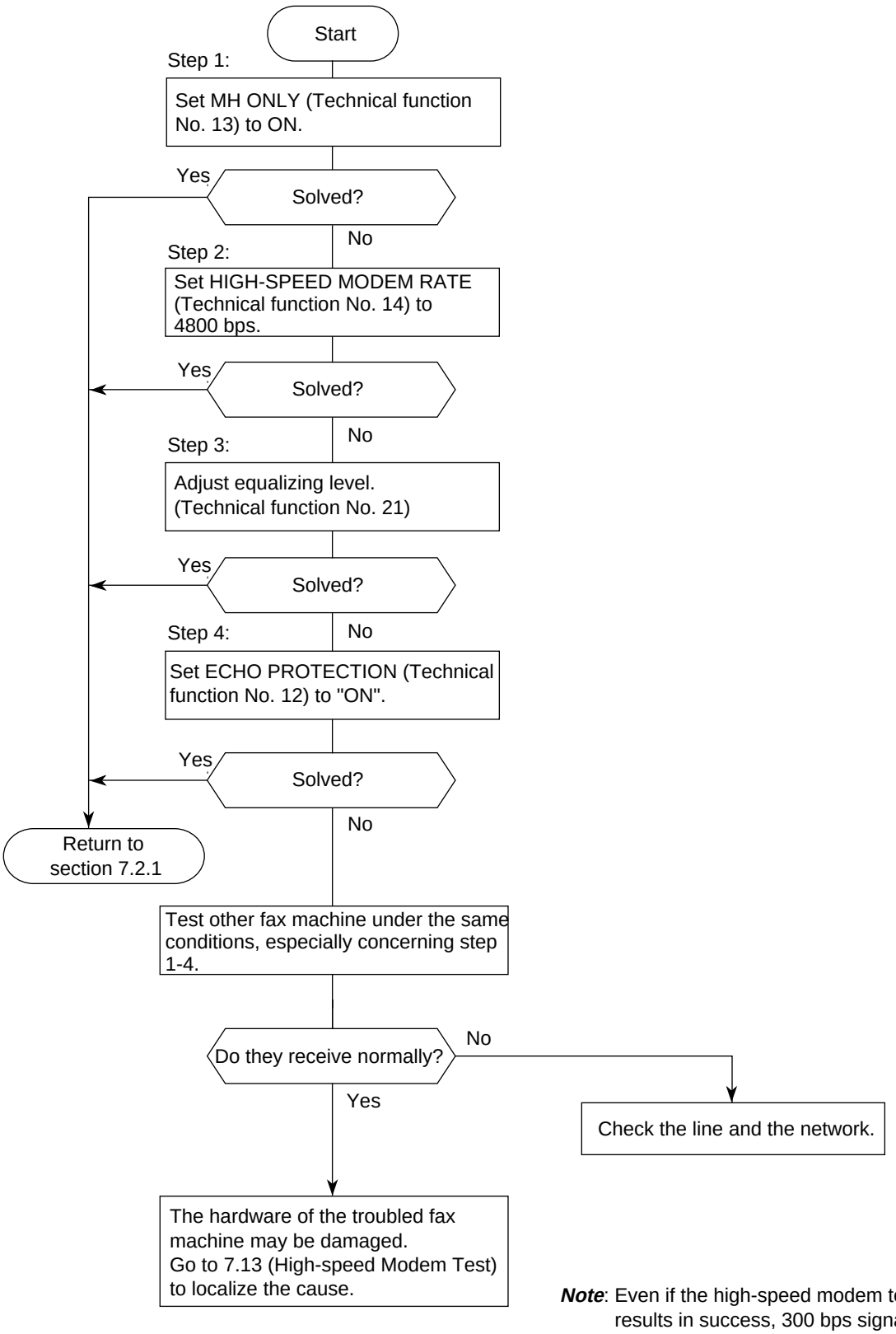


7.8 Auto Reception Failure


Start
Manual reception OK?
No
Yes
Your handset telephone rings when a call arrives?
No
Yes
1. Check the handset of telephone set.
2. Check the line.
3. Check the exchange.
Placed in the auto receive mode? If not, place the fax machine in that mode by pressing AUTO REC key.
Check the following items:
1. Placed in the manual receive mode?
2. START key pressed to answer the call?
3. Closed network is ON and the remote phone number is not registered in one-touch key or two-digit auto dial code?
Yes
Solved?
No
Set CLOSED NETWORK (Function program No. 08) to OFF.
Yes
Solved?
No
Ringing signal is detected at Pin 40 of CN3 (NCU)?
No
Yes
Replace MCNT Board.
Yes
Solved?
No
Replace NCU Board.
Yes
Solved?
No
Check that the ringing signal meets the specification of the fax machine. (See Item of Table)
Return to section 7.1

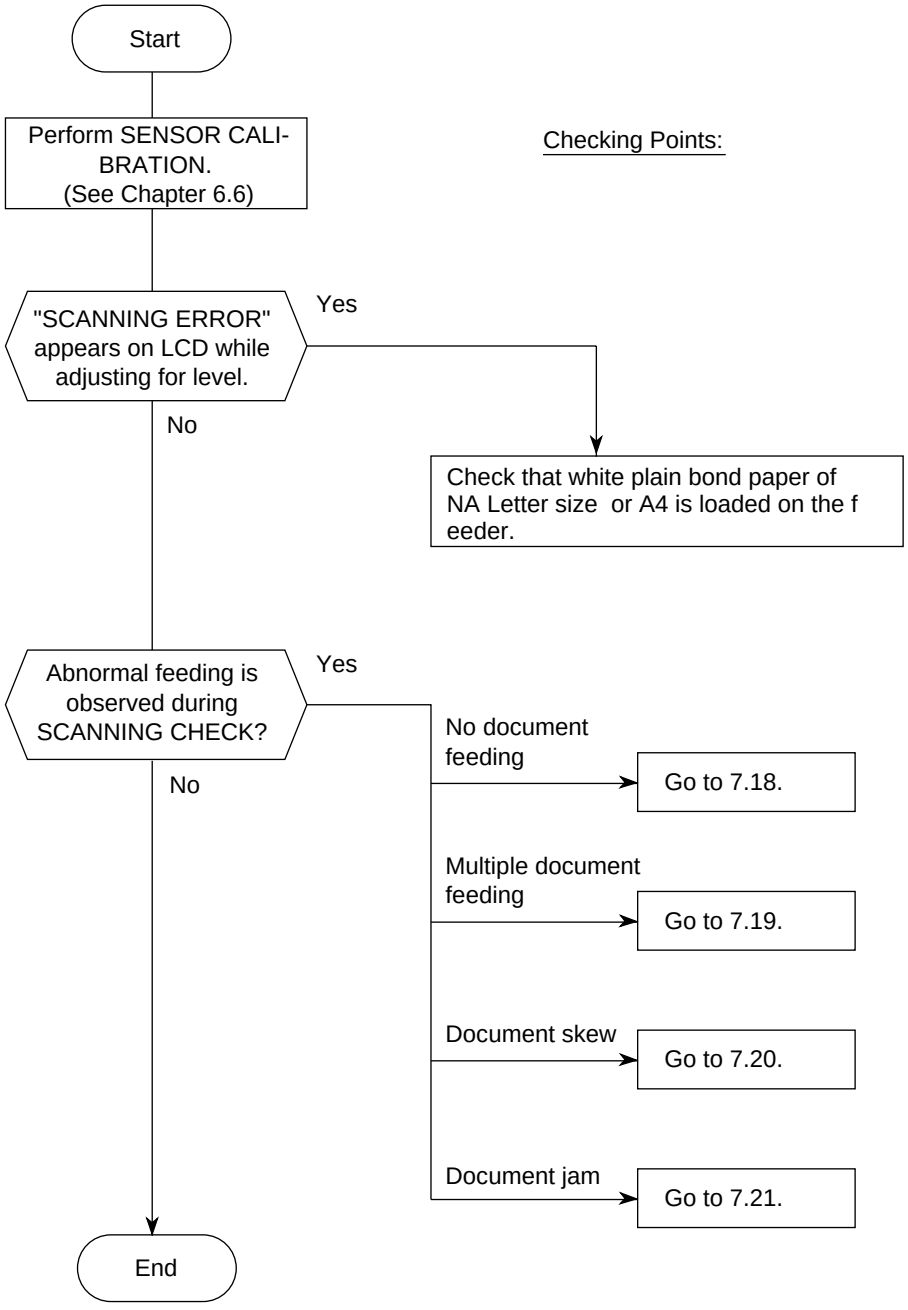
7.9 Reception Problem

This section explains how to localize the cause of problems occurred after completion of connection with a remote station.

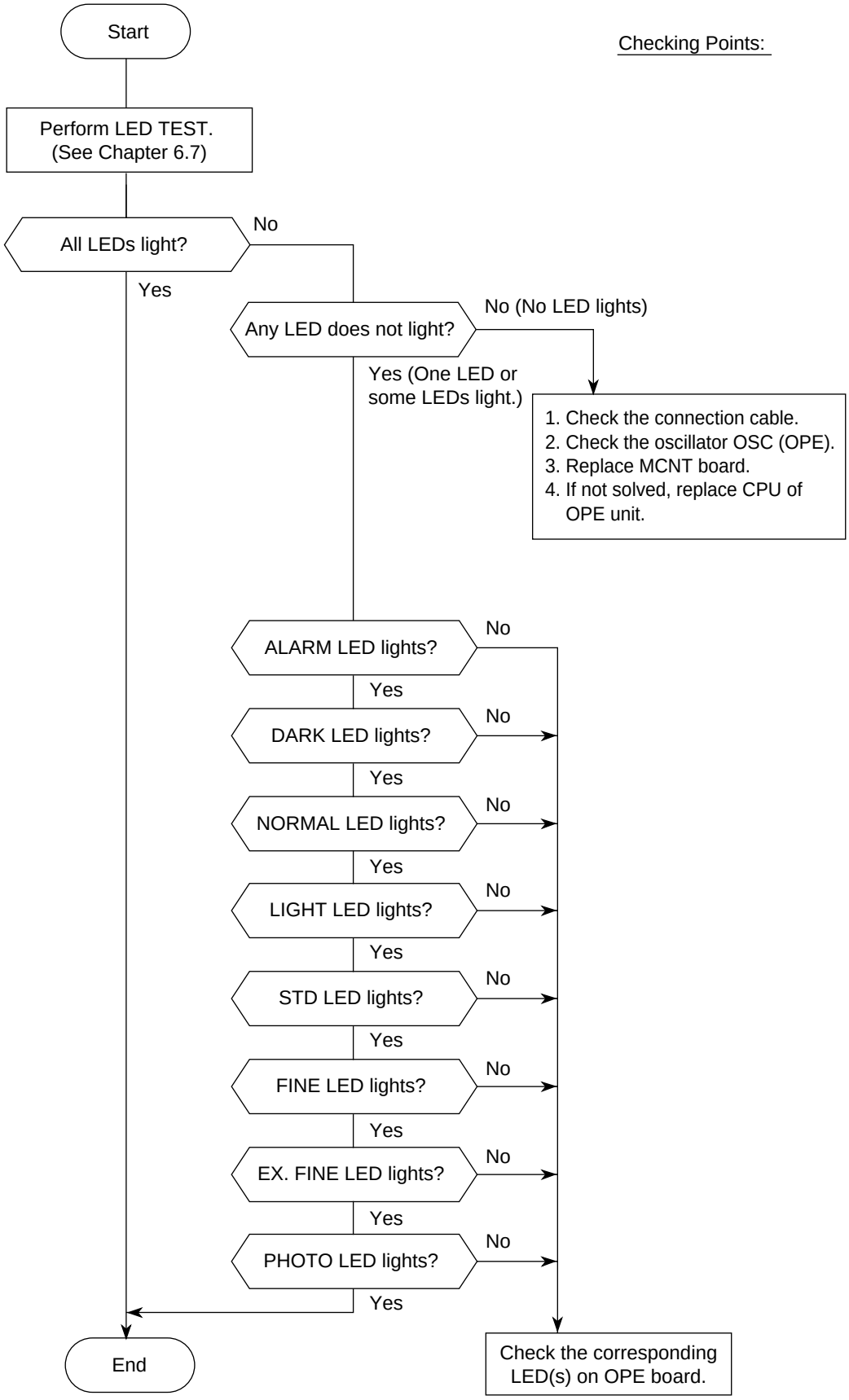


Note: Even if the high-speed modem test results in success, 300 bps signal route remains unchecked. In that case, the most suspected unit is MCNT board.

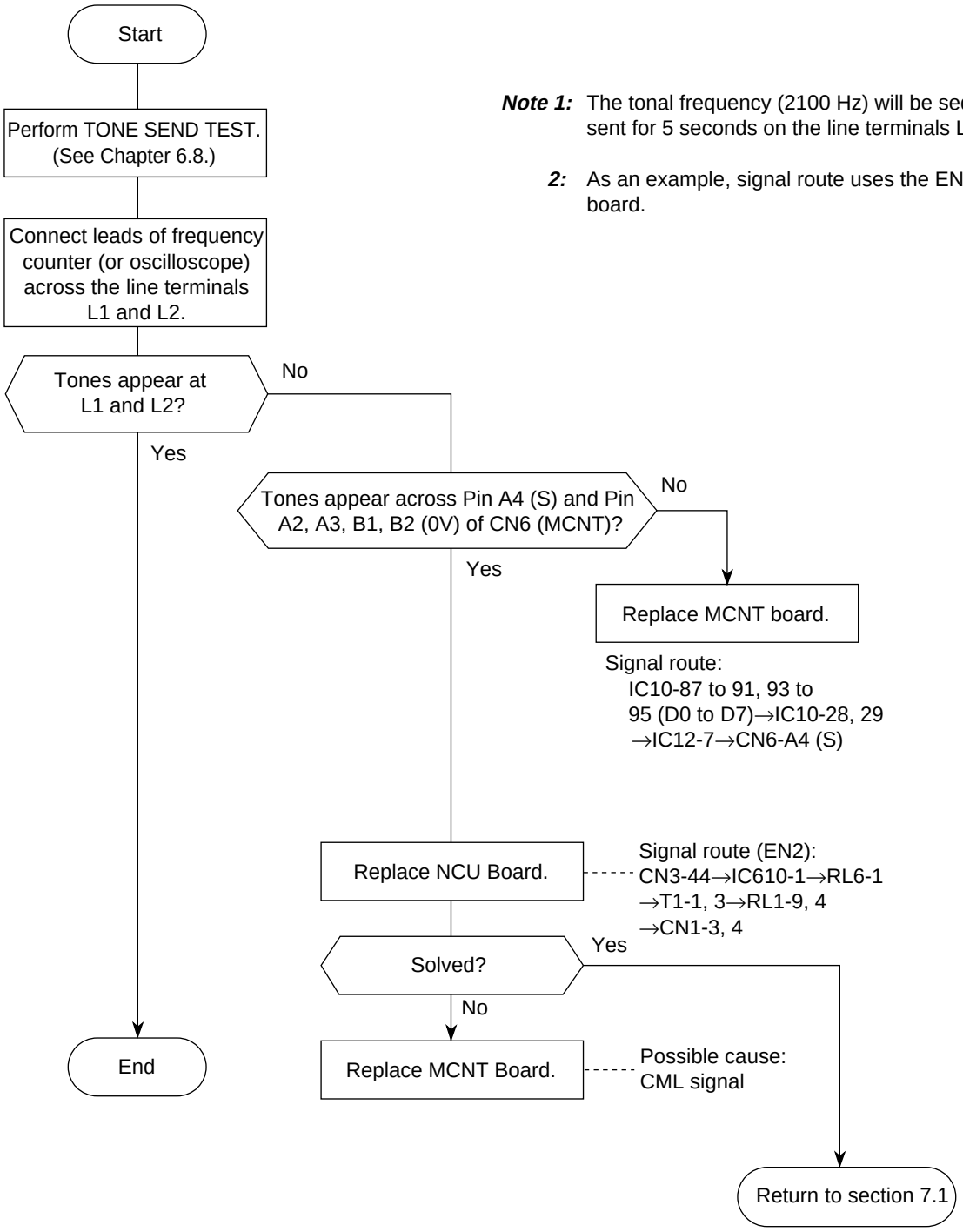
7.10 Sensor Calibration Test



7.11 LED Test


Start
Perform LED TEST.
(See Chapter 6.7)
All LEDs light?
No
Yes
Any LED does not light?
No (No LED lights)
Yes (One LED or some LEDs light.)
Checking Points:
1. Check the connection cable.
2. Check the oscillator OSC (OPE).
3. Replace MCNT board.
4. If not solved, replace CPU of OPE unit.
ALARM LED lights?
DARK LED lights?
NORMAL LED lights?
LIGHT LED lights?
STD LED lights?
FINE LED lights?
EX. FINE LED lights?
PHOTO LED lights?
No
Yes
End
Check the corresponding LED(s) on OPE board.

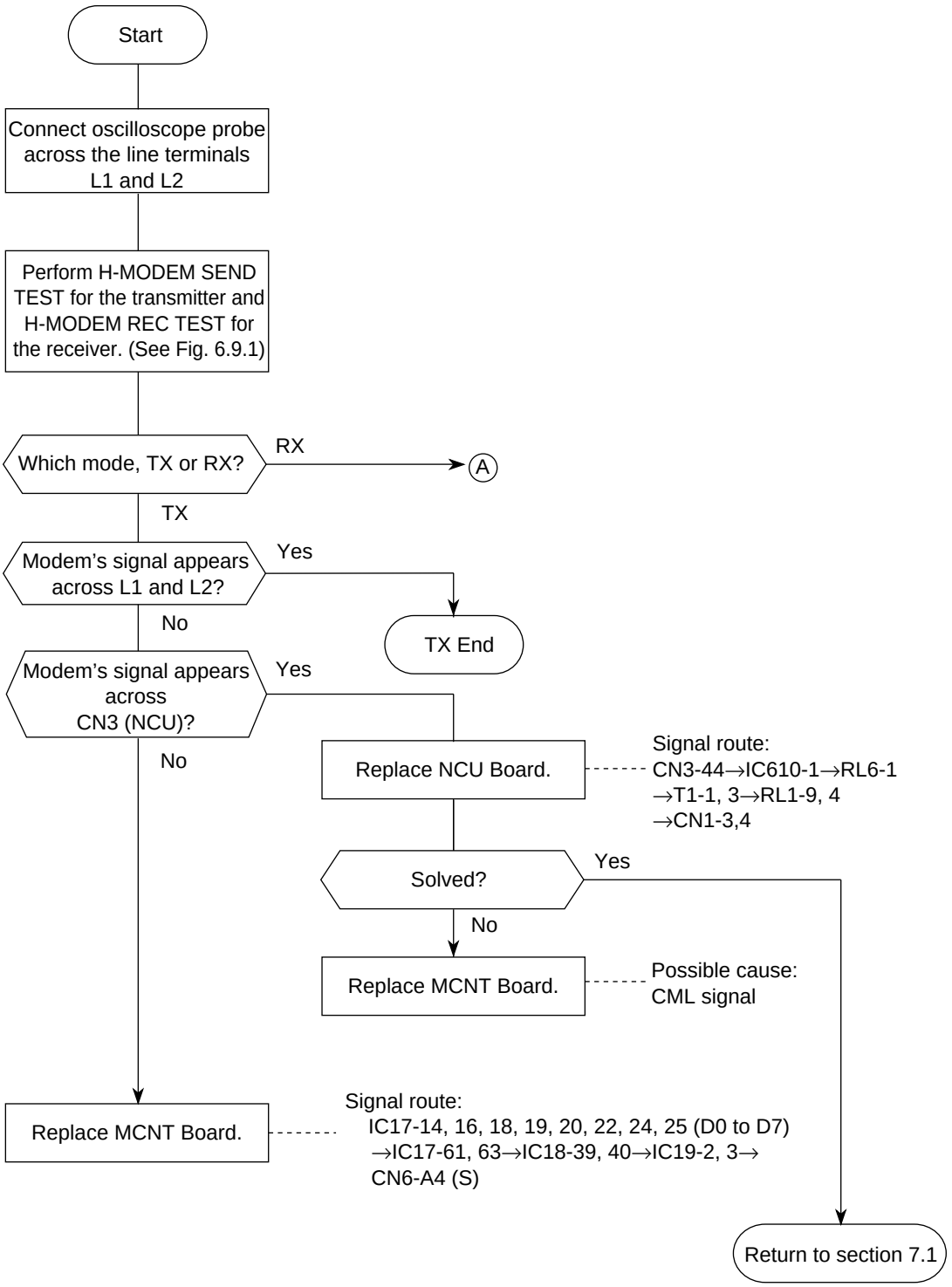
7.12 Tone Send Test

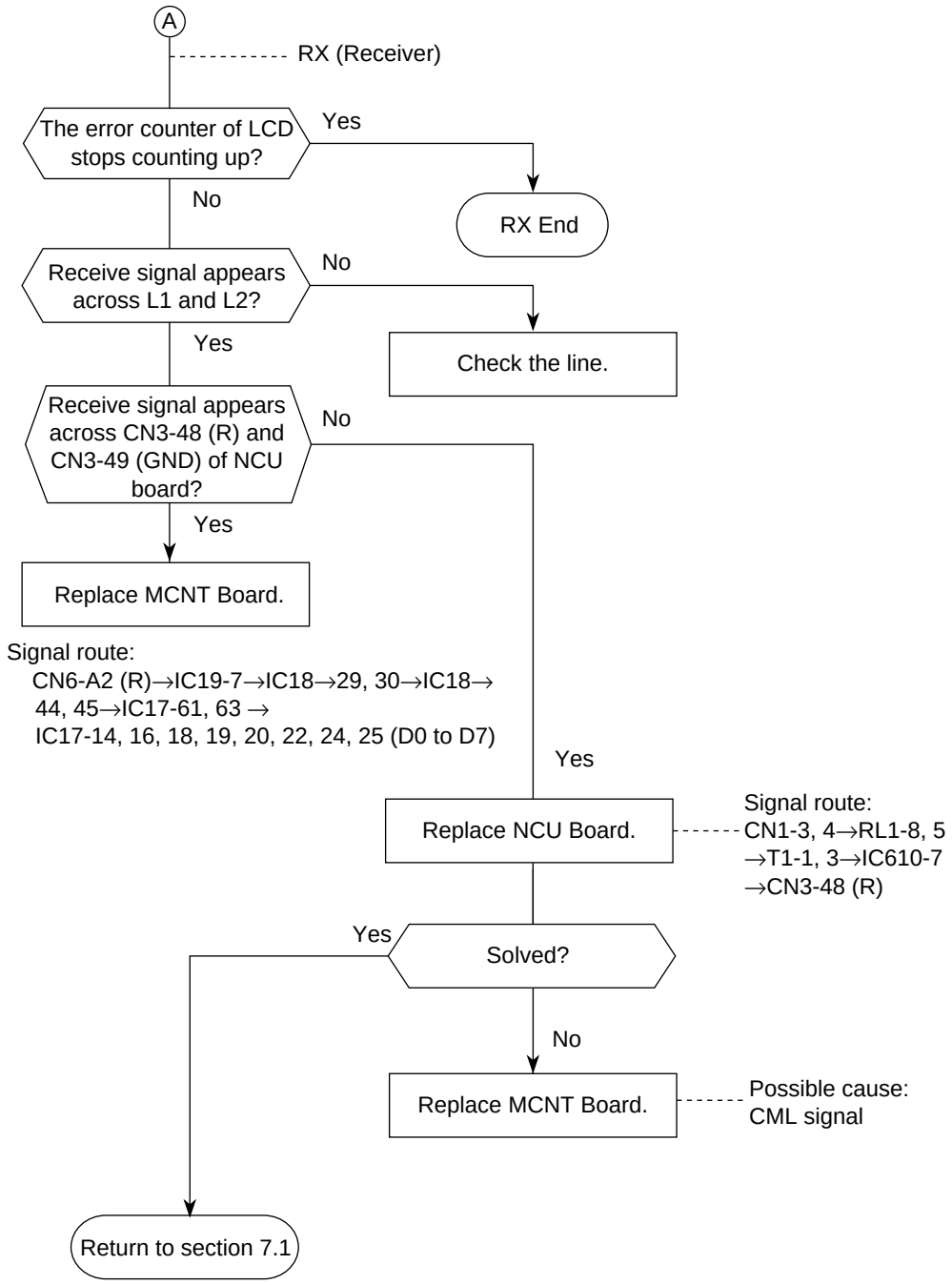

Start
Perform TONE SEND TEST. (See Chapter 6.8.)
Connect leads of frequency counter (or oscilloscope) across the line terminals L1 and L2.
Tones appear at L1 and L2?
No
Yes
Tones appear across Pin A4 (S) and Pin A2, A3, B1, B2 (0V) of CN6 (MCNT)?
No
Yes
Replace MCNT board.
Signal route:
IC10-87 to 91, 93 to 95 (D0 to D7)→IC10-28, 29 →IC12-7→CN6-A4 (S)
Replace NCU Board.
Signal route (EN2):
CN3-44→IC610-1→RL6-1 →T1-1, 3→RL1-9, 4 →CN1-3, 4
Solved?
Yes
No
End
Replace MCNT Board.
Possible cause:
CML signal
Return to section 7.1

Note 1: The tonal frequency (2100 Hz) will be sequentially sent for 5 seconds on the line terminals L1 and L2.

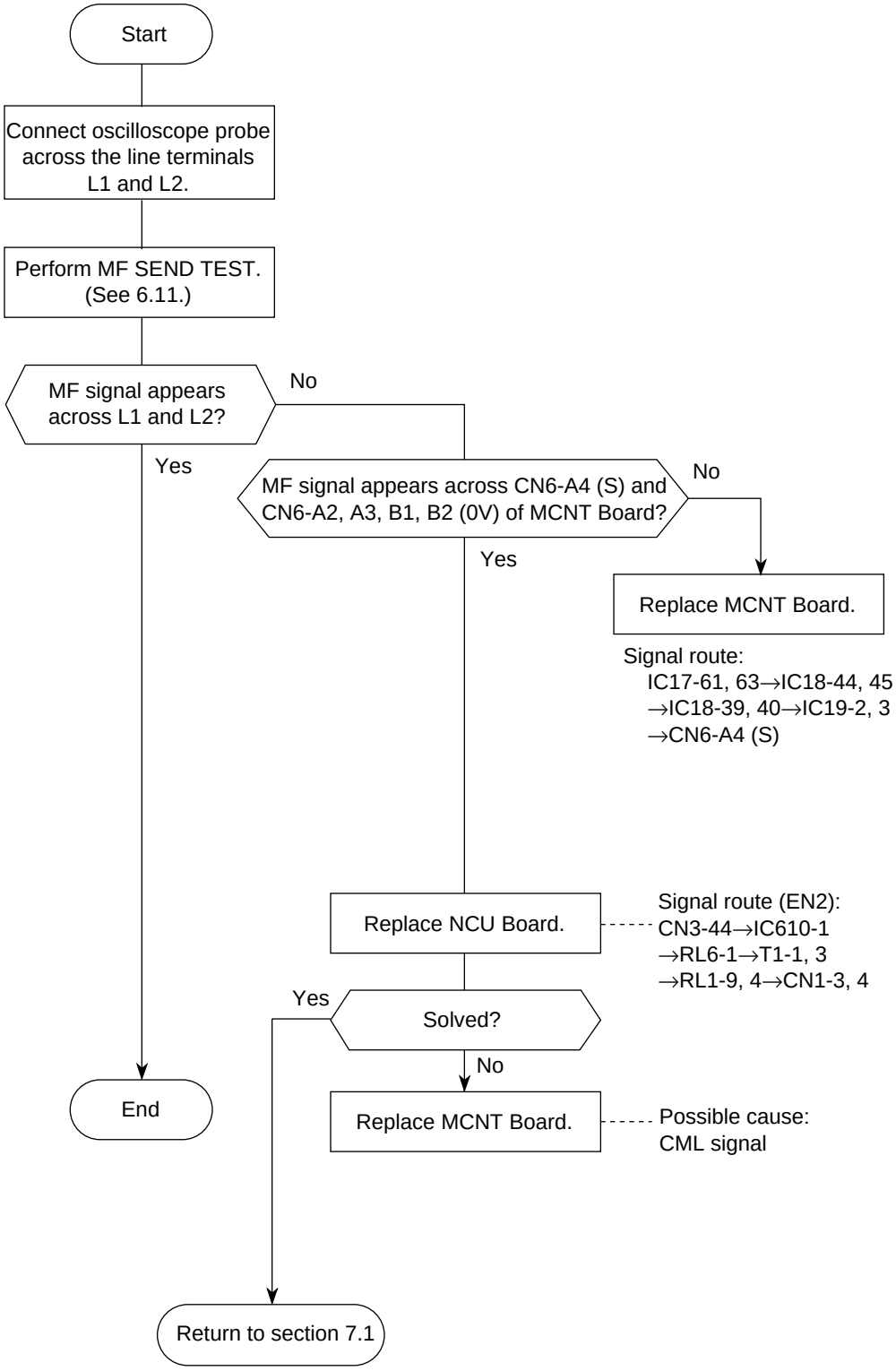
2: As an example, signal route uses the EN2 (NCU) board.

7.13 High-speed Modem Test

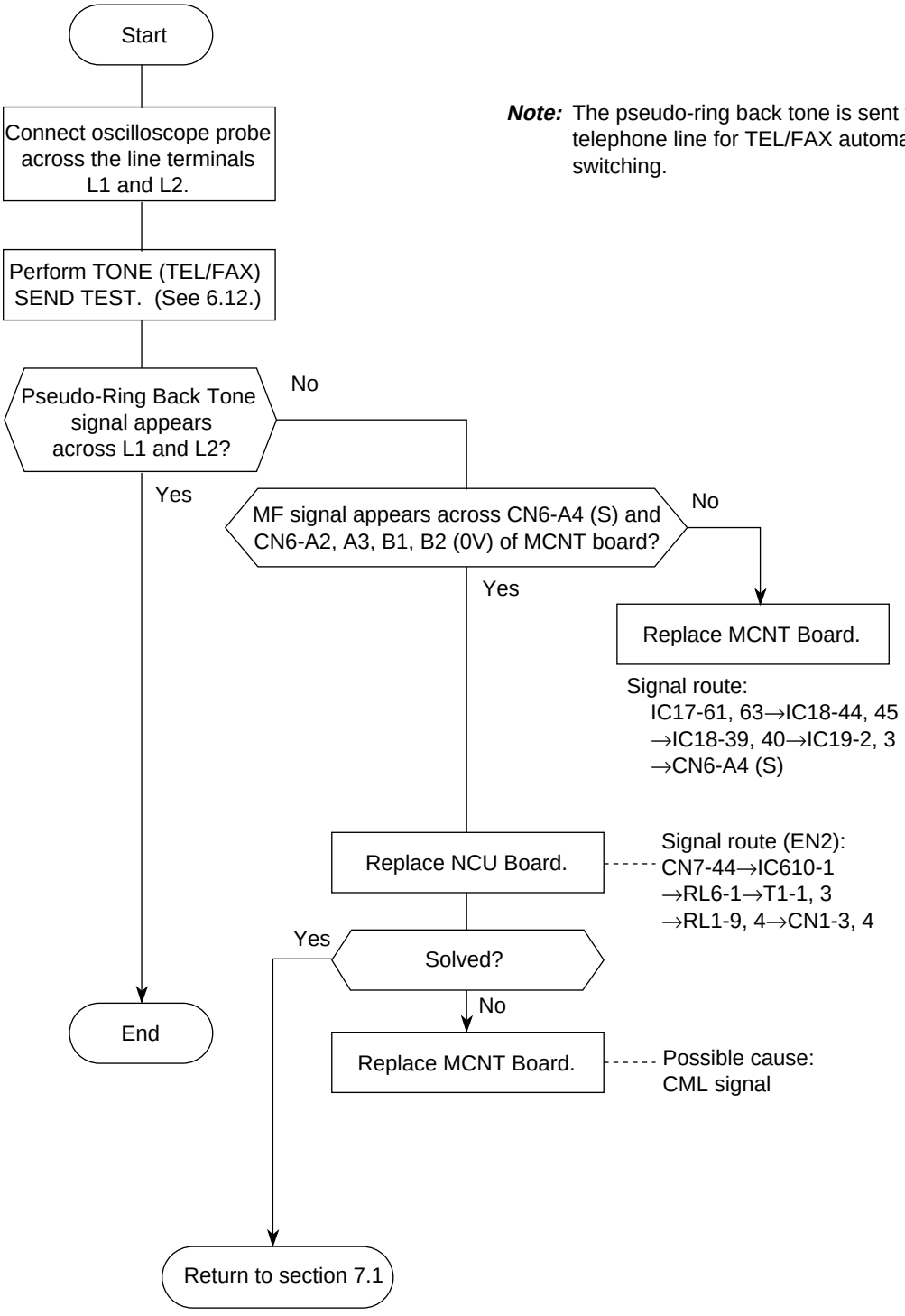



A
RX (Receiver)
The error counter of LCD stops counting up?
Yes
RX End
No
Receive signal appears across L1 and L2?
No
Check the line.
Yes
Receive signal appears across CN3-48 (R) and CN3-49 (GND) of NCU board?
No
Yes
Replace MCNT Board.
Signal route:
CN6-A2 (R)→IC19-7→IC18→29, 30→IC18→
44, 45→IC17-61, 63 →
IC17-14, 16, 18, 19, 20, 22, 24, 25 (D0 to D7)
Yes
Replace NCU Board.
Signal route:
CN1-3, 4→RL1-8, 5
→T1-1, 3→IC610-7
→CN3-48 (R)
Yes
Solved?
No
Replace MCNT Board.
Possible cause:
CML signal
Return to section 7.1

7.14 MF Send Test



7.15 Tone (TEL/FAX) Send Test

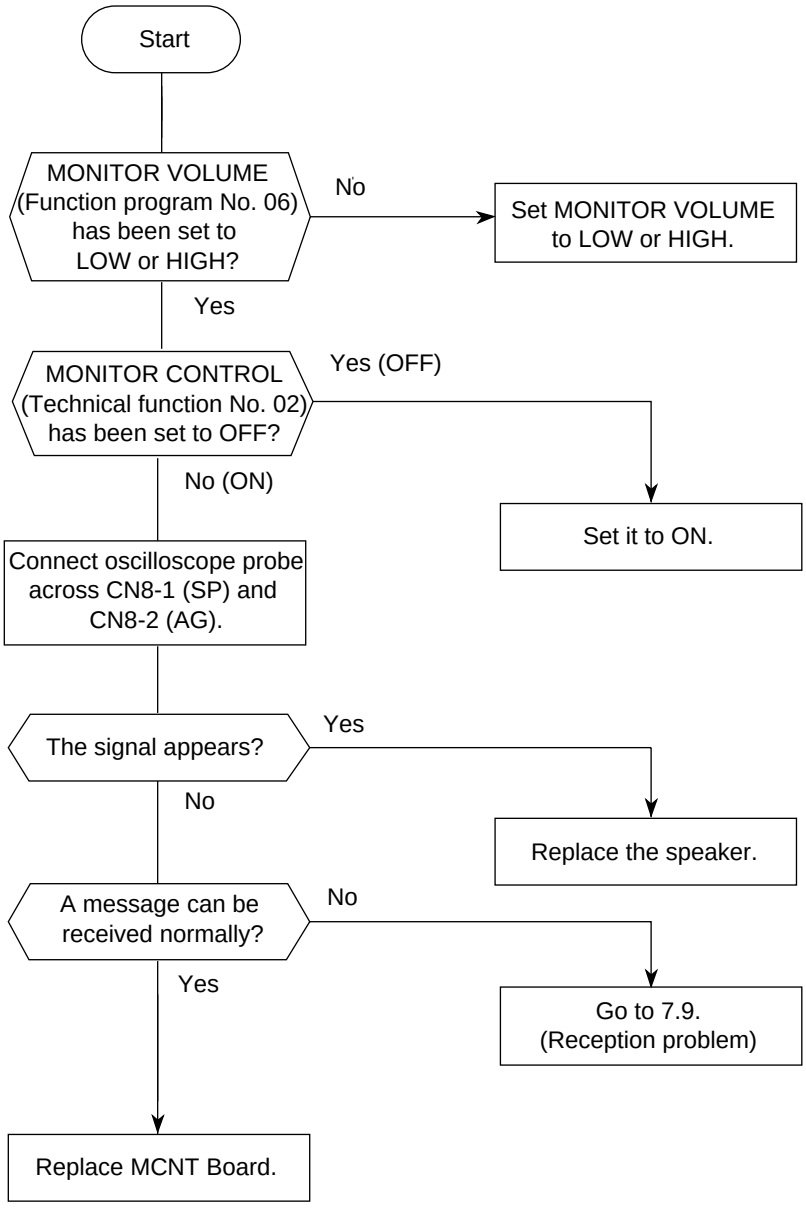


Note: The pseudo-ring back tone is sent to the telephone line for TEL/FAX automatic switching.

7.16 No Acoustic Line Monitor

There are two source routes of acoustic line monitor:

(a) General communication signal
(b) DP pulse signal

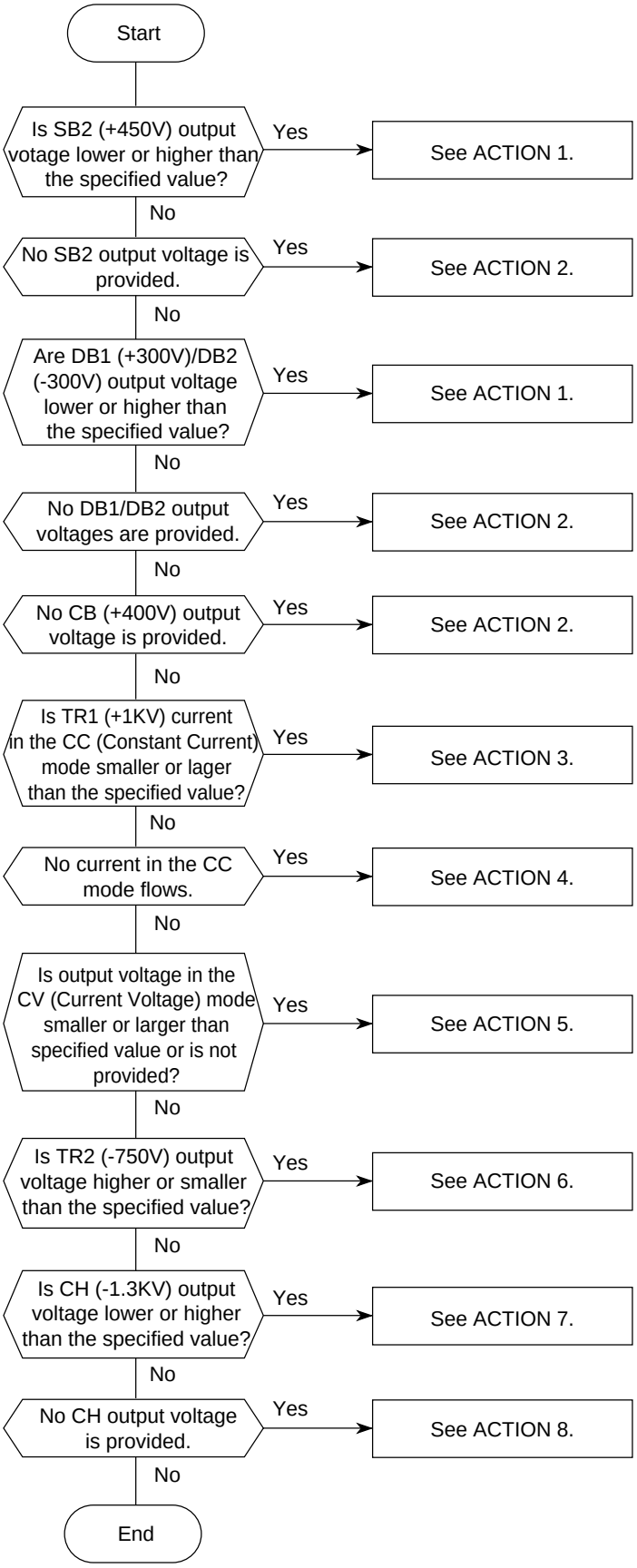


Signal route:
CN6-A2 (R)→IC19-7 (RM)
→TR11-1→IC9-3→IC15-5

7.17 Low Power Supply Unit (LPSU)

Low-voltage Selection
Replace the Power Supply Unit when output voltage written on the item A3 in the Appendix A is not normal.

7.18 High Power Supply Unit (HO8 board)

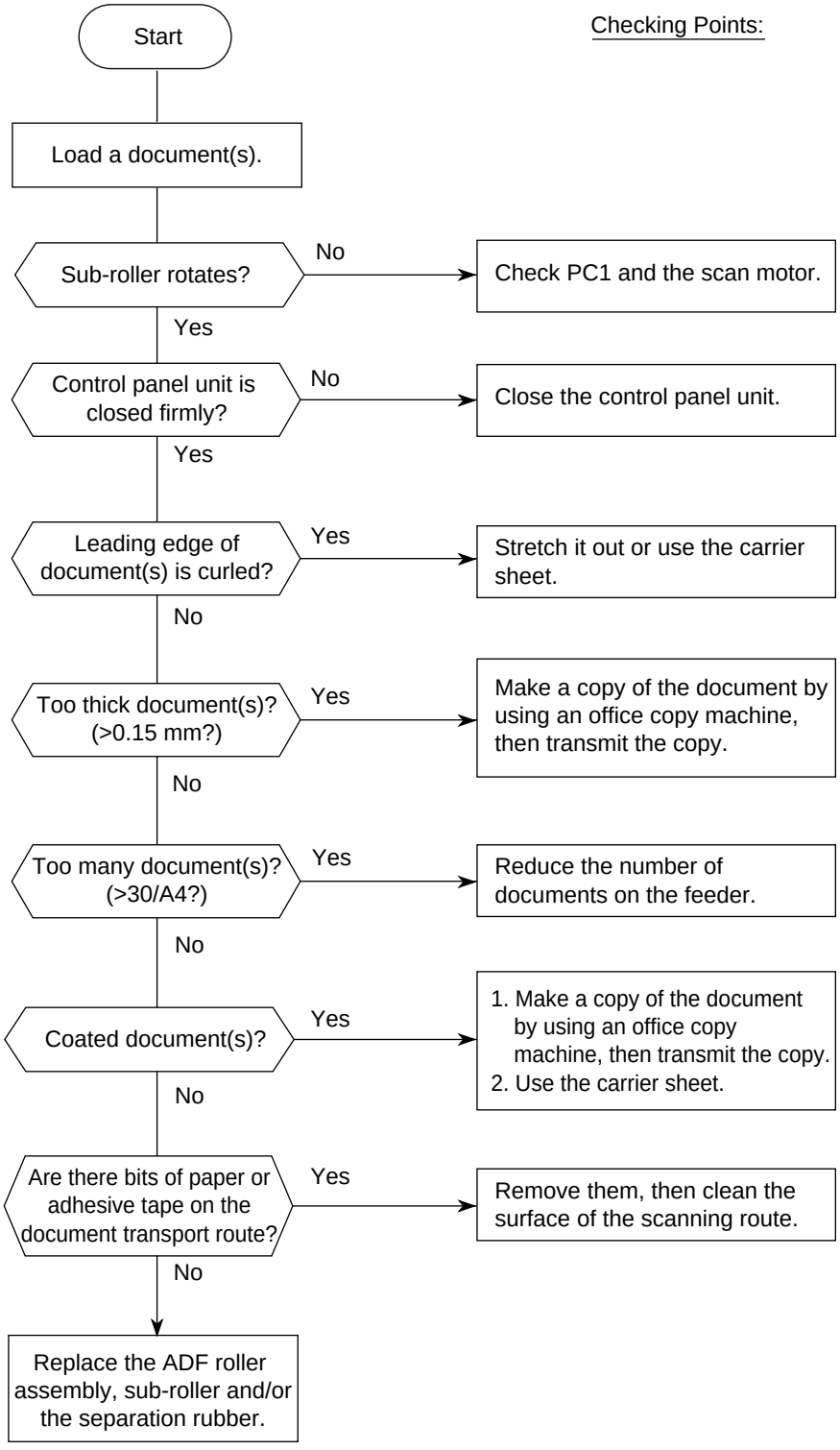


ACTION Item:

No.	ACTION
1	Probable cause 1: D85 is defective. Check item 1: Replace D85. Probable cause 2: The load is larger than the normal value. Check item 2: Check if the load current is 2μA or less. Probable cause 3: D52 is defective. Check item 3: Check if D52 is iZ300 class Y or Z (class X is not acceptable).
2	Probable cause 1: Q11 and Q12 are malfunctioning. Check item 1: Check the PWM waveform of DB output (cycle: 142 μs, ON time: 36μs). Check item 2: Check Q11 and Q12. Check the base voltage of Q21, Q22 and Q23 (3.7V or more to 3.9V or more).
3	Probable cause 1: Current set resistor R115 is defective. Check item 1: Check R115 (tolerance error: +/-1%) Probable cause 2: The reference voltage is incorrect. Check item 2: Check if the voltage at CN3-3 pin is 2.5V. Check item 3: Check the PWM waveform of TR1 (cycle: 142Ms, ON time: 36 μs).
4	Probable cause 1: CC (Constant Current) mode is not set. Check item 1: Check if TR2 PWM is "H". Probable cause 2: T2 is defective. Check item 2: Replace T2. Check T2. Probable cause 3: Check (3) of ACTION 11.
5	Probable cause 1: The voltage memory circuit is malfunctioning. Check item 1: Check if the average value of the VSEN voltage in the CC mode is equal to that in the CV (Current Voltage) mode. Check if the voltage across C301 remains unchanged in the CV mode (for 15 seconds or more).
6	Probable cause 1: D65 or D66 is defective. Check item 1: Check if these diodes are 1ZB390. Check item 2: Check the PWM waveform of TR2 output (cycle: 146μs, ON time: 36μs). Check item 3: Check if TR1 PWM is "L" or TR2 PWM is "H" (if TR1 is "H", TR1 PWM output appears).
7	Probable cause 1: The class of D76 or D82 is incorrect. Check item 1: Check if both D76 and D82 are of EB-2 class. Probable cause 2: The load current is lower than the specified value. Check item 2: The load current shall be 6 to 8μA. (Namely, the load current shall not be more than or less than this limit range.)
8	Check item 1: Check the PWM waveform of CH (cycle: 42μs, ON time: 36μs).

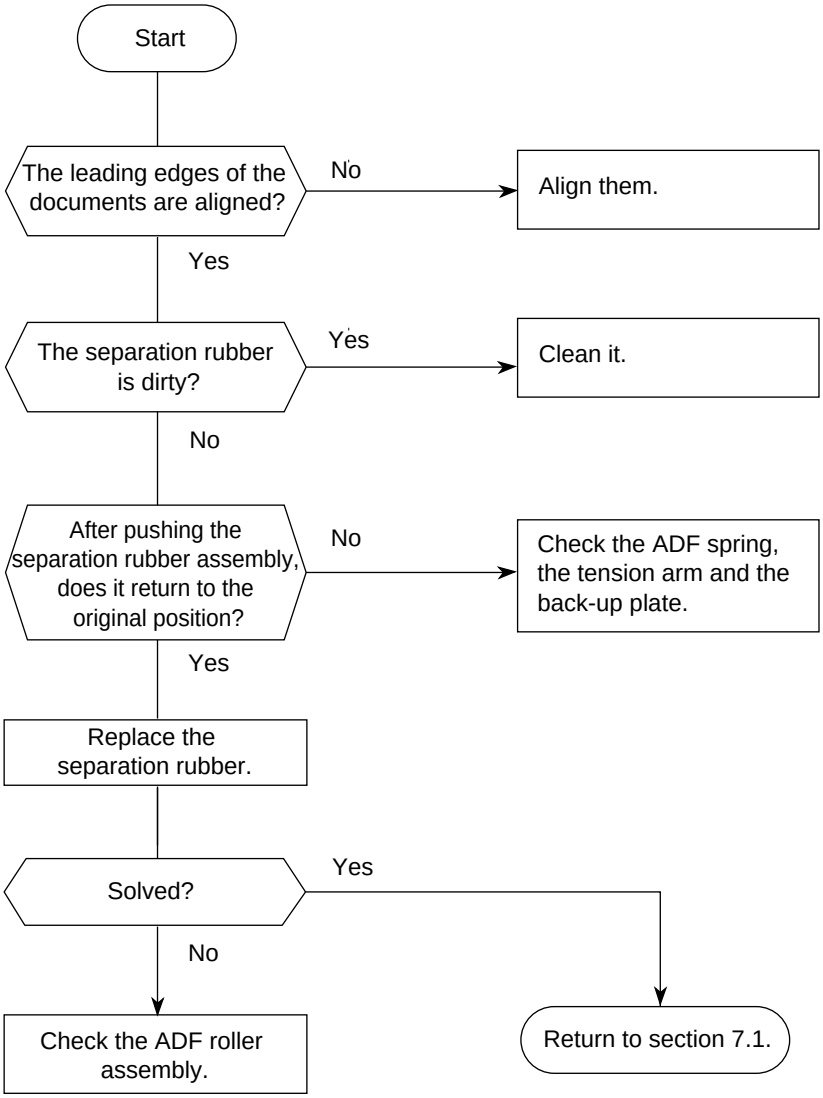
7.19 No Document Feeding

Note: This section places an emphasis on troubleshooting of mechanical portions. Therefore, it is recommended to replace the MCNT Board first and, then if not solved, follow this flow chart.

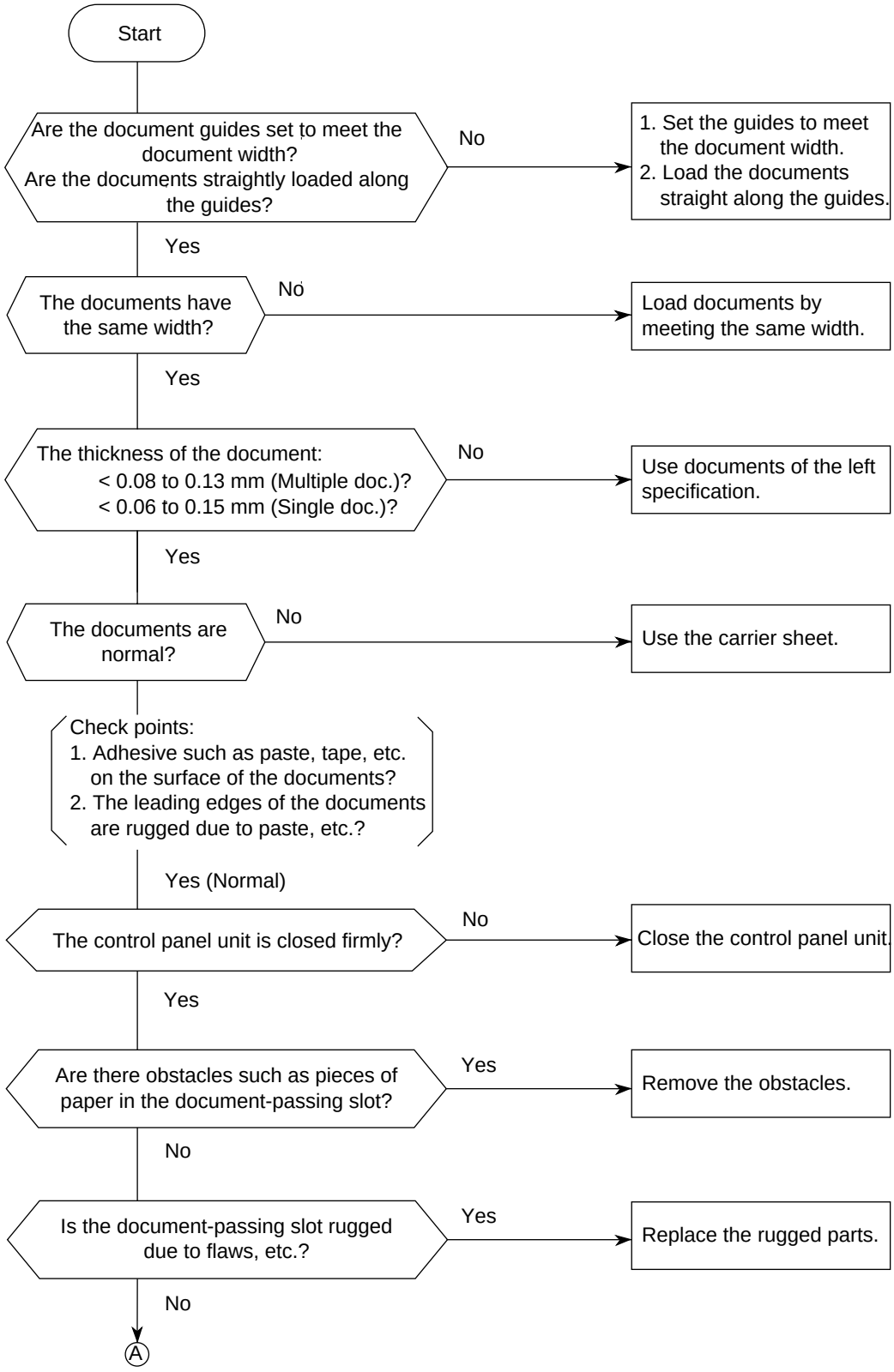

Start
Checking Points:
Load a document(s).
Sub-roller rotates?
No
Check PC1 and the scan motor.
Yes
Control panel unit is closed firmly?
No
Close the control panel unit.
Yes
Leading edge of document(s) is curled?
Yes
Stretch it out or use the carrier sheet.
No
Too thick document(s)? (>0.15 mm?)
Yes
Make a copy of the document by using an office copy machine, then transmit the copy.
No
Too many document(s)? (>30/A4?)
Yes
Reduce the number of documents on the feeder.
No
Coated document(s)?
Yes
1. Make a copy of the document by using an office copy machine, then transmit the copy.
2. Use the carrier sheet.
No
Are there bits of paper or adhesive tape on the document transport route?
Yes
Remove them, then clean the surface of the scanning route.
No
Replace the ADF roller assembly, sub-roller and/or the separation rubber.

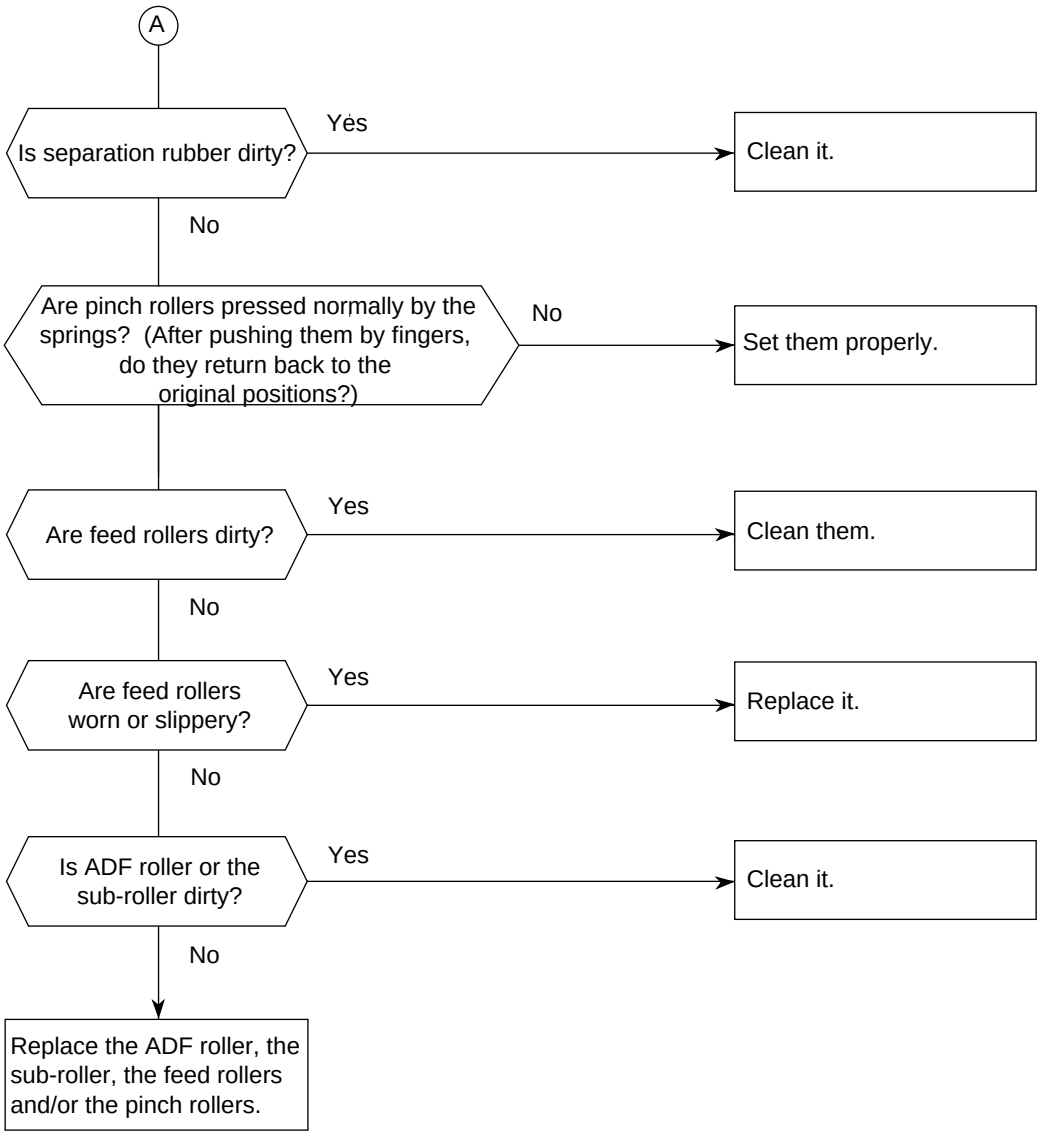
7.20 Multiple Document Feeding

Definition: Multiple document feeding.
Multiple documents are not separated and they are fed in the same one feeding operation.

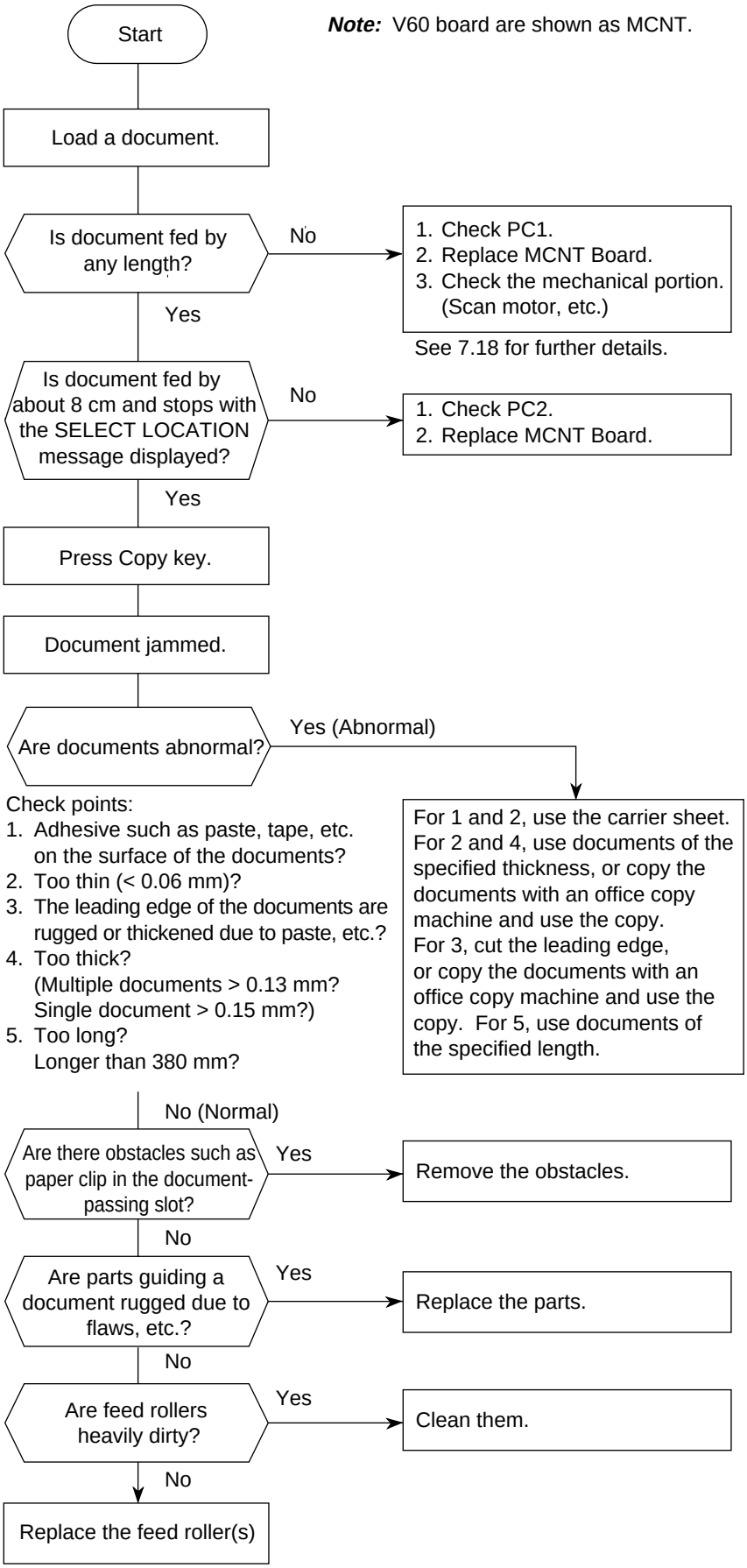


7.21 Document Skew


Start
Are the document guides set to meet the document width?
Are the documents straightly loaded along the guides?
No
1. Set the guides to meet the document width.
2. Load the documents straight along the guides.
Yes
The documents have the same width?
No
Load documents by meeting the same width.
Yes
The thickness of the document:
< 0.08 to 0.13 mm (Multiple doc.)?
< 0.06 to 0.15 mm (Single doc.)?
No
Use documents of the left specification.
Yes
The documents are normal?
No
Use the carrier sheet.
Check points:
1. Adhesive such as paste, tape, etc. on the surface of the documents?
2. The leading edges of the documents are rugged due to paste, etc.?
Yes (Normal)
The control panel unit is closed firmly?
No
Close the control panel unit.
Yes
Are there obstacles such as pieces of paper in the document-passing slot?
Yes
Remove the obstacles.
No
Is the document-passing slot rugged due to flaws, etc.?
Yes
Replace the rugged parts.
No
A


A
Is separation rubber dirty?
Yes
Clean it.
No
Are pinch rollers pressed normally by the springs? (After pushing them by fingers, do they return back to the original positions?)
No
Set them properly.
Are feed rollers dirty?
Yes
Clean them.
No
Are feed rollers worn or slippery?
Yes
Replace it.
No
Is ADF roller or the sub-roller dirty?
Yes
Clean it.
No
Replace the ADF roller, the sub-roller, the feed rollers and/or the pinch rollers.

7.22 Document Jam



7.23 Printer Unit

7.23.1 Precautions

1. Points to check before correcting image troubles
   (1) Is the printer being run in proper ambient conditions?
   (2) Have the supplies (toner) and the routine replacement part (ID unit) been replaced properly?
   (3) Is the recording paper normal?
   (4) Has the ID unit been loaded properly?

2. Tips for correcting image troubles
   (1) Do not touch, or bring foreign matter into contact with the surface of the drum.
   (2) Do not expose the drum to direct sunlight.
   (3) Keep hands off the fuser unit as it is heated during operation.
   (4) Do not expose the drum to light for longer than 5 minutes at room temperature.

7.23.2 Troubleshooting Flow Charts of Printer Unit

Overall troubleshooting flow chart:

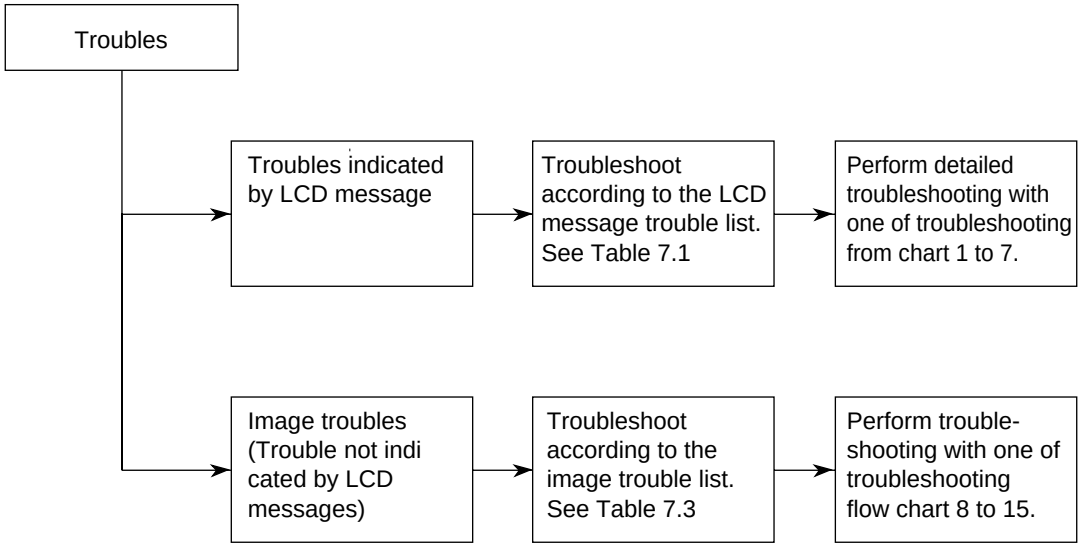
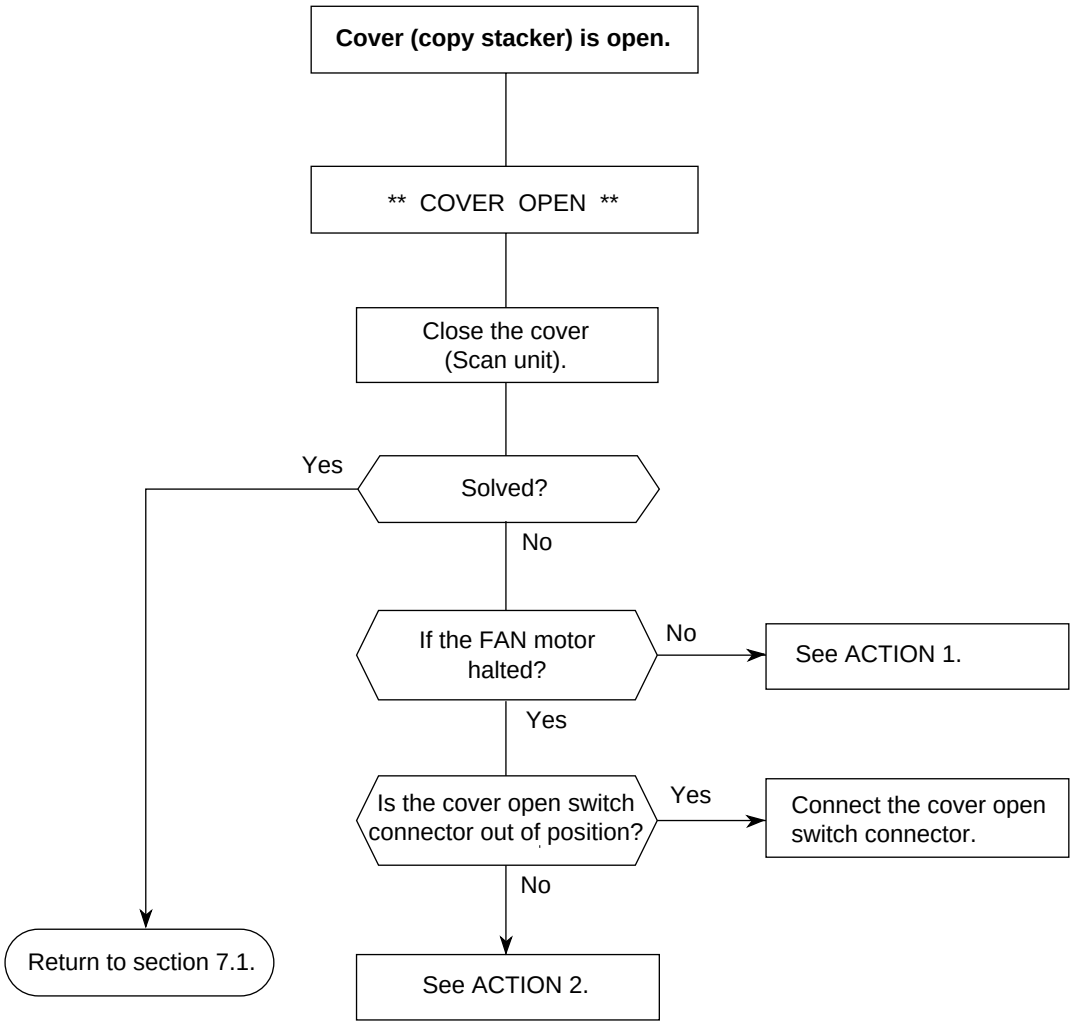

Troubles
Troubles indicated by LCD message
Troubleshoot according to the LCD message trouble list. See Table 7.1
Perform detailed troubleshooting with one of troubleshooting from chart 1 to 7.
Image troubles (Trouble not indi cated by LCD messages)
Troubleshoot according to the image trouble list. See Table 7.3
Perform trouble-shooting with one of troubleshooting flow chart 8 to 15.

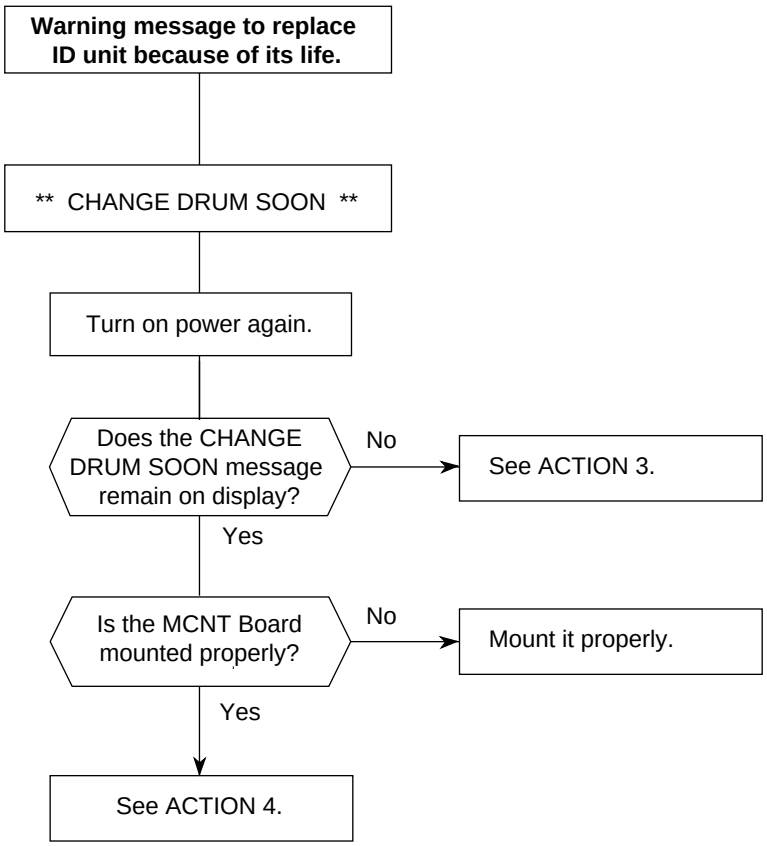
Table 7.1 LCD Message Trouble List

Category	LCD message display	Trouble	Troubleshooting flow chart number
Cover open	14:14 FAX COVER OPEN	The cover (copy stacker) is open.	1
Image drum alarm	14:14 FAX CHANGE DRUM	Warning message to replace ID unit because of its life.	2
Engine errors	PRINTER ALARM 2 :TEL REFER TO USER GUIDE	Engine controller error (Option: 2nd tray)	3
	PRINTER ALARM 3 :TEL REFER TO USER GUIDE	Fan motor rotation error	4
	PRINTER ALARM 4 :TEL REFER TO USER GUIDE	Fuser unit thermal error	5
Recording paper/ jam error	PAPER SIZE ERR. :FAX CHECK PAPER OR PATH	Recording size error	6
	PAPER MISS FEED :FAX CHECK PAPER OR PATH	Recording paper feed jam	6
	PAPER JAM :FAX CHECK PAPER OR PATH	Transport jam, ejection jam	6
Paper cassette request	PAPER SUPPLY OUT:FAX CHECK PAPER SUPPLY	No recording paper cassette or no recording paper	7
Daily status	TONER LOW :FAX REPLACE TONER CART.	Toner is running short. ***Note:*** No toner memory RX is ON.	
	14:14 FAX REPLACE TONER CART.	Toner is running short. ***Note:*** No toner memory RX is OFF.	

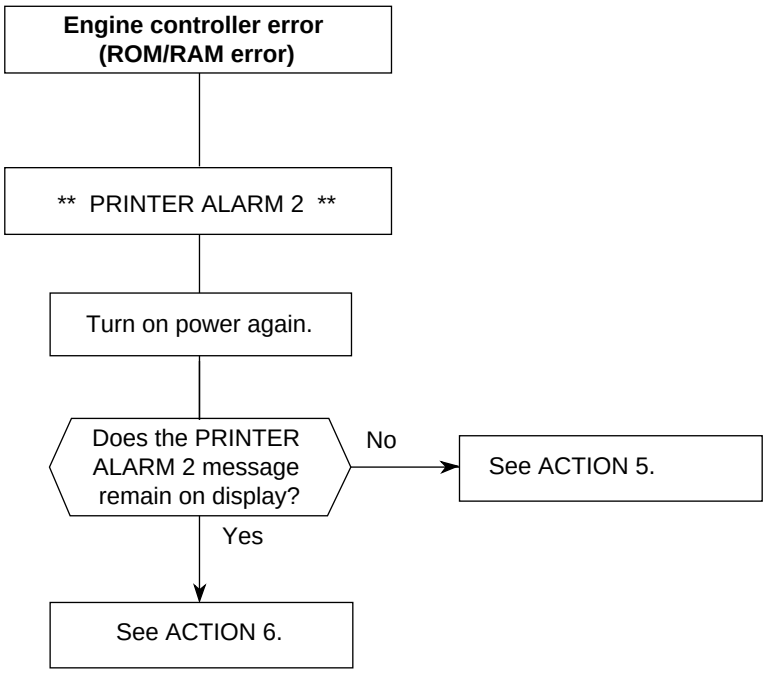
Troubleshooting flow chart 1:



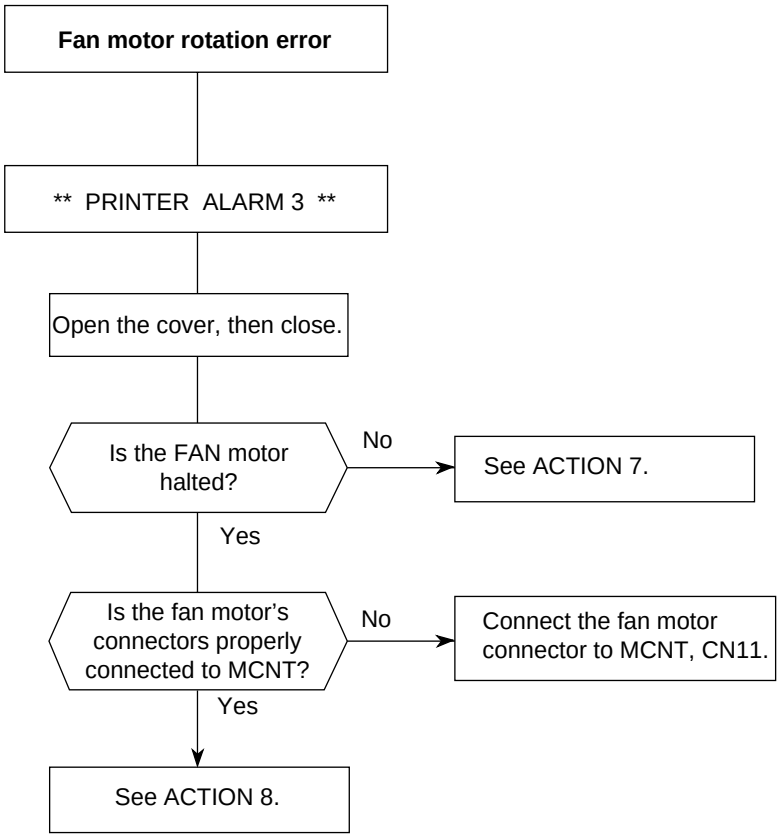
Troubleshooting flow chart 2:



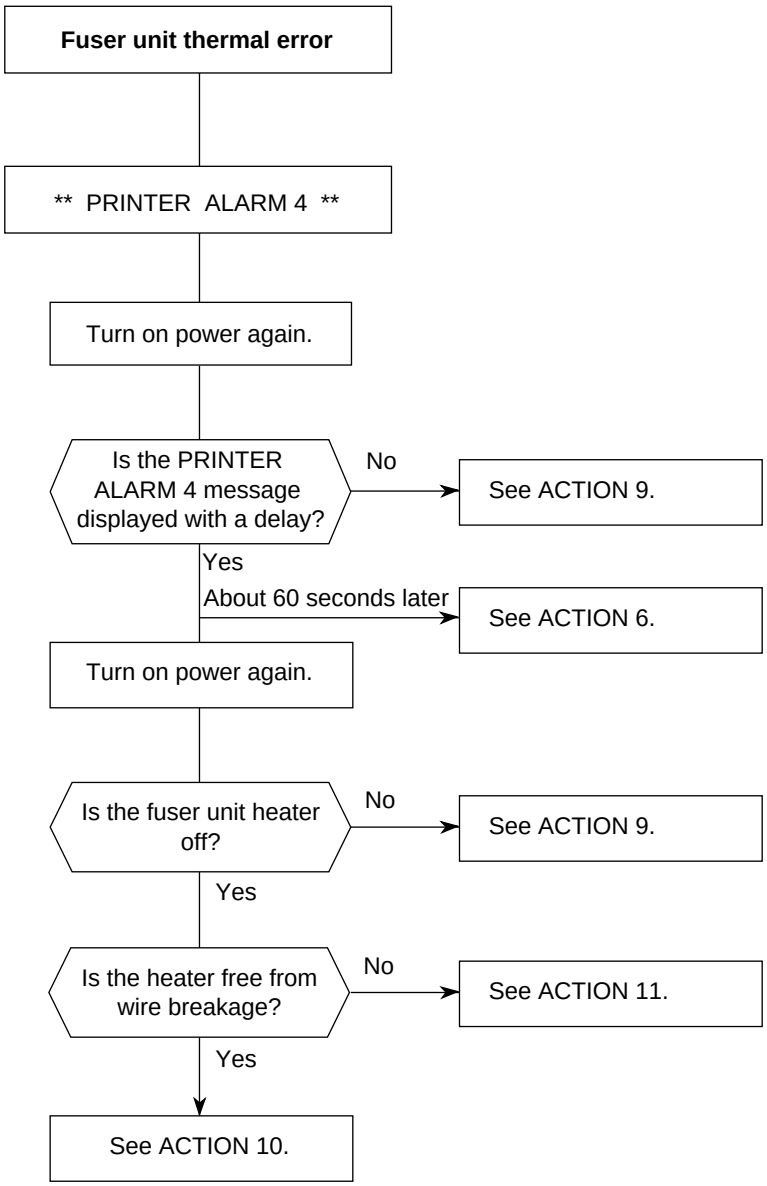
Troubleshooting flow chart 3:



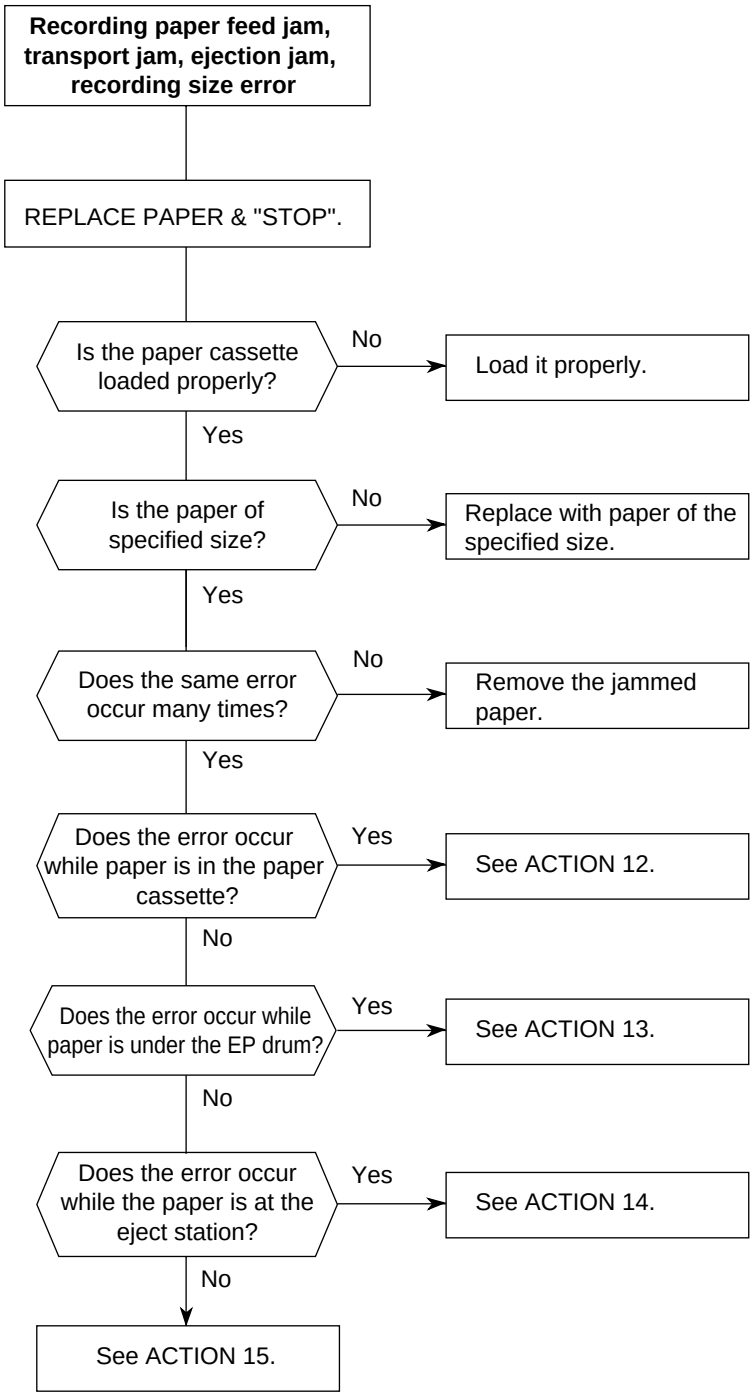
Troubleshooting flow chart 4:



Troubleshooting flow chart 5:



Troubleshooting flow chart 6:



Troubleshooting flow chart 7:

No recording paper cassette or not recording paper

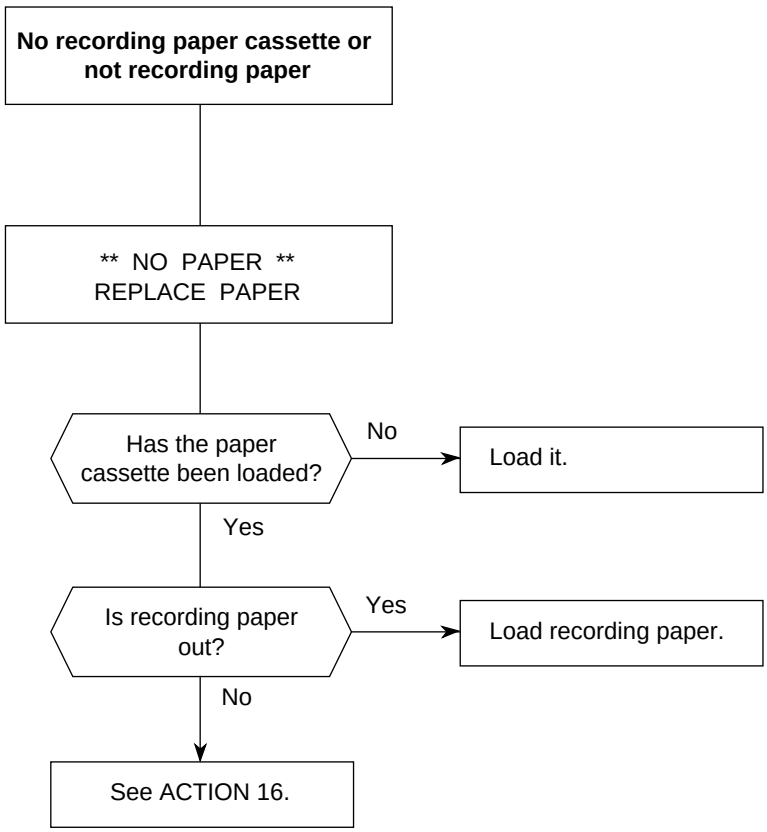


Table 7.2 Action Items (Printer Unit-LCD Message)

No.	ACTION	No.	ACTION
1	Check MCNT Board.	9	Check thermister (resistance of about 100 kilo ohms at room temperature and about 1.5 kilo ohms at high temperature), High POWER SUPPLY UNIT.
2	Check High POWER SUPPLY UNIT. cover open switch, cover open switch connection. Check MCNT Board.	10	Check connection between the High Power Supply Unit and the fuser assembly, heater, thermostat.
3	Return to Section 7.2.	11	Check High Power Supply Unit.
4	Replace the ID Unit. And clear Drum Count, Selection 6.3.	12	Check inlet sensor lever, hopping roller, resist motor, MCNT Board, cover setting state.
5	Check installation of MCNT board, High POWER SUPPLY UNIT board.	13	Check cover setting state, drum motor, drum motor gear, MCNT Board.
6	Check MCNT Board.	14	Check exit sensor lever, cover setting state, High Power Supply Unit
7	Check FAN motor, MCNT Board.	15	Check MCNT Board,.
8	Check FAN motor, MCNT Board, High POWER SUPPLY UNIT.	16	Check paper sensor lever, High Power Supply Unit, MCNT board.

Note: V60 are shown as MCNT.

Table 7.3 Image Troubles

Abnormal Symptom	Reference Figure	Troubleshooting Flow Chart No.
Images are light or blurred as a whole.	Fig. Ⓐ	8
The blank background is smeared.	Fig. Ⓑ	9
Blank paper is output.	Fig. Ⓒ	10
Black belts or black stripes in vertical direction.	Fig. Ⓓ	11
Periodic abnormal printing.	Fig. Ⓔ	12
Some parts not printed.	—	13
White belts or some white stripes in vertical direction	Fig. Ⓕ	14
Poor fusing (Images are blurred or peeled off when touched by hands)	—	15

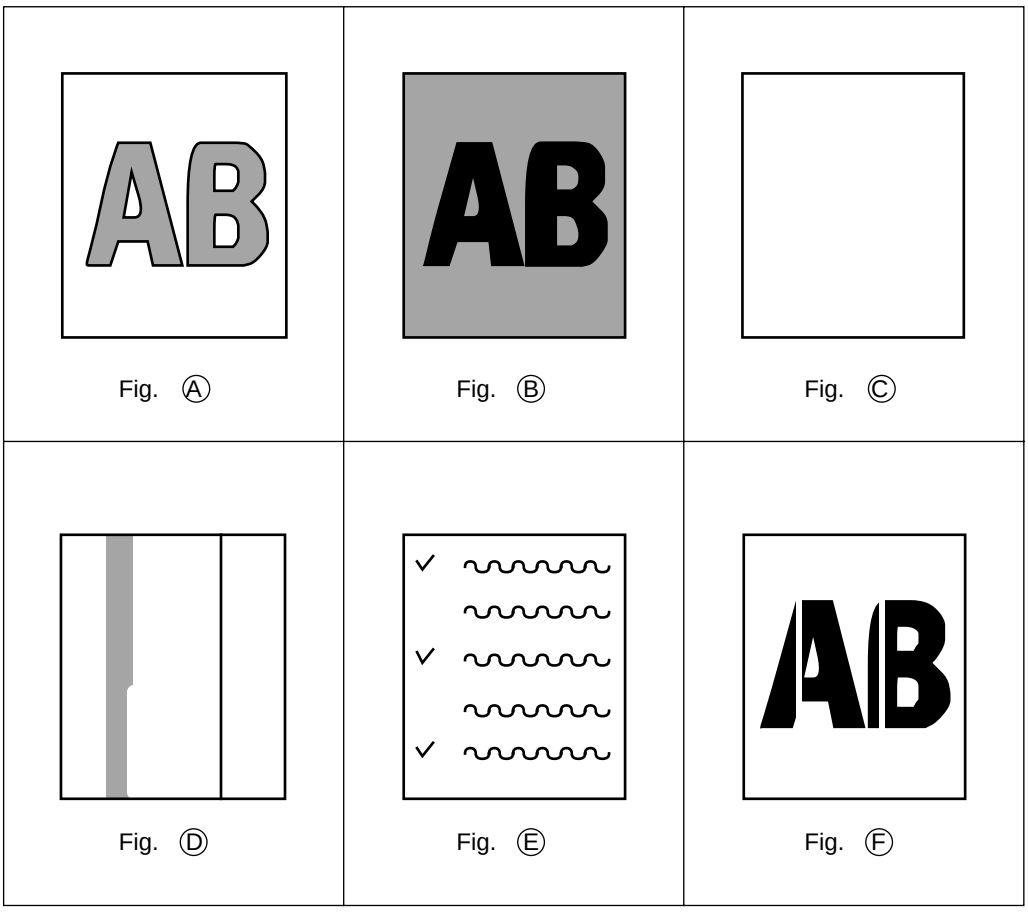
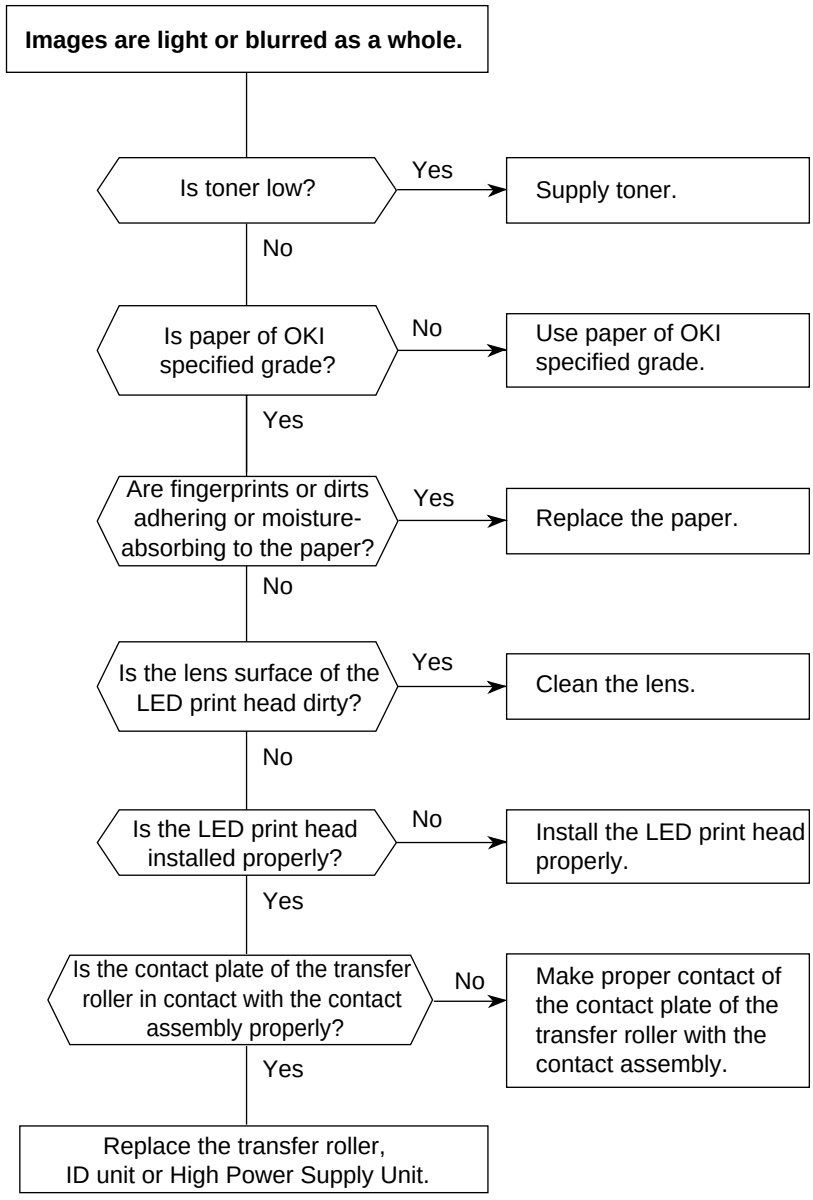
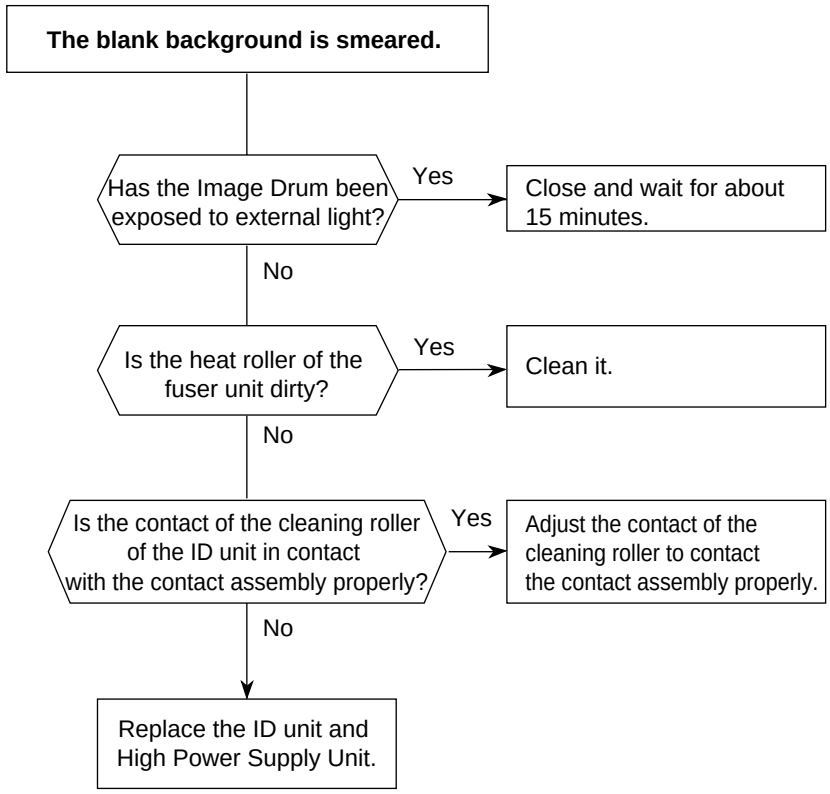


Figure 7.1 Abnormal Symptoms of Image Troubles (Example)

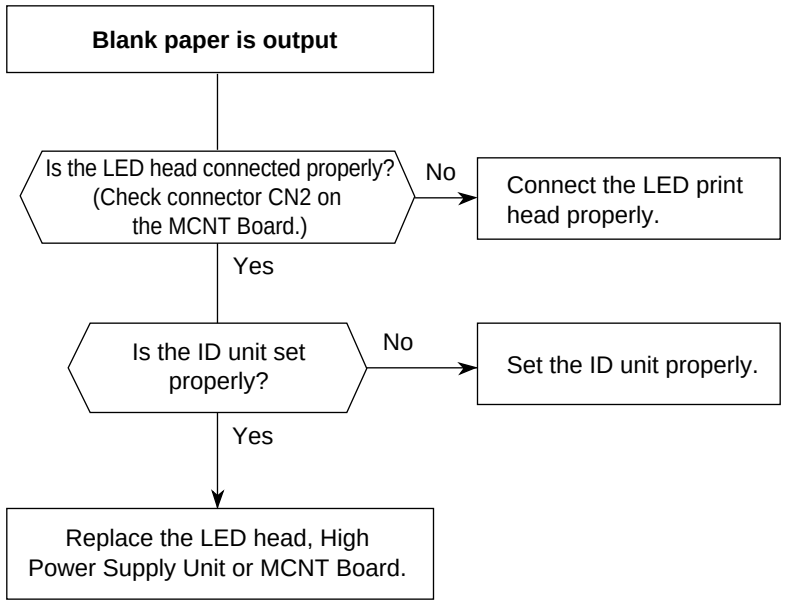
Troubleshooting flow chart 8:


Images are light or blurred as a whole.
Is toner low?
Yes
Supply toner.
No
Is paper of OKI specified grade?
No
Use paper of OKI specified grade.
Yes
Are fingerprints or dirts adhering or moisture-absorbing to the paper?
Yes
Replace the paper.
No
Is the lens surface of the LED print head dirty?
Yes
Clean the lens.
No
Is the LED print head installed properly?
No
Install the LED print head properly.
Yes
Is the contact plate of the transfer roller in contact with the contact assembly properly?
No
Make proper contact of the contact plate of the transfer roller with the contact assembly.
Yes
Replace the transfer roller, ID unit or High Power Supply Unit.

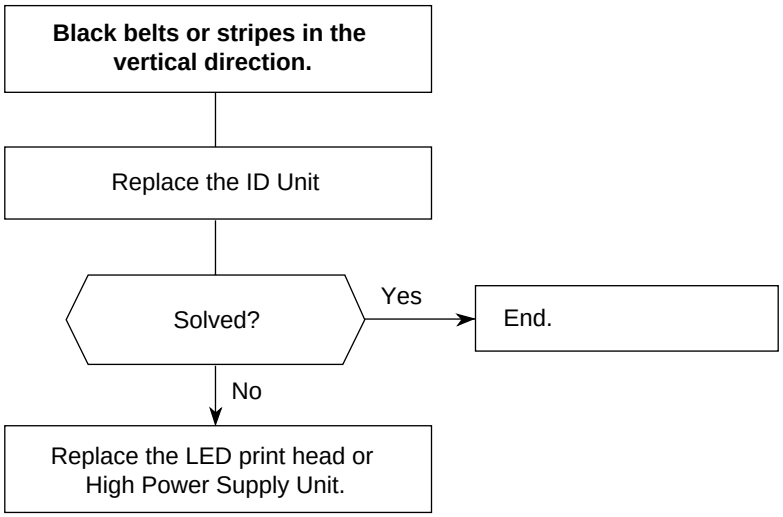
Troubleshooting flow chart 9:


The blank background is smeared.
Has the Image Drum been exposed to external light?
Yes
Close and wait for about 15 minutes.
No
Is the heat roller of the fuser unit dirty?
Yes
Clean it.
No
Is the contact of the cleaning roller of the ID unit in contact with the contact assembly properly?
Yes
Adjust the contact of the cleaning roller to contact the contact assembly properly.
No
Replace the ID unit and High Power Supply Unit.

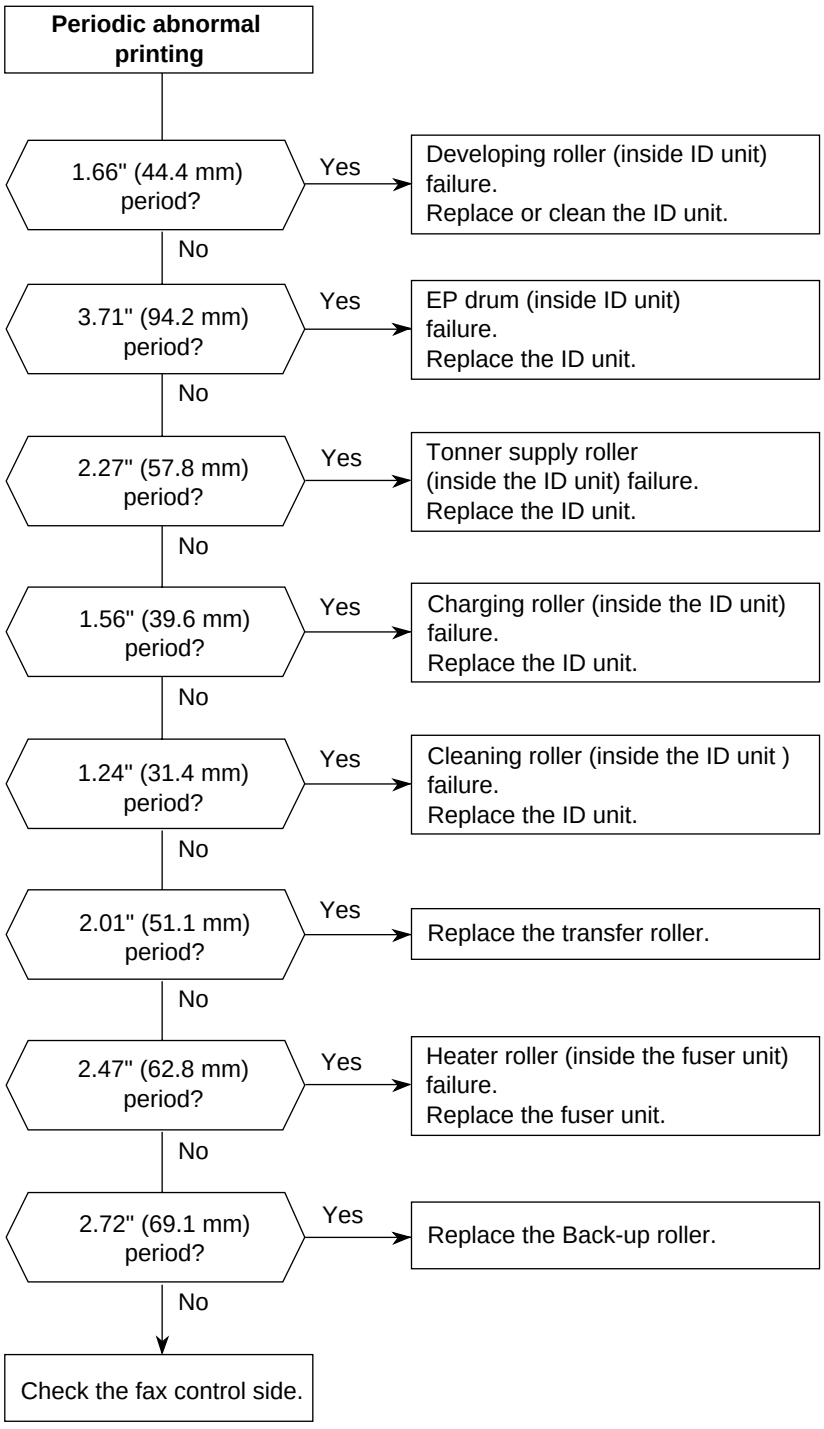
Troubleshooting flow chart 10:


Blank paper is output
Is the LED head connected properly? (Check connector CN2 on the MCNT Board.)
No
Connect the LED print head properly.
Yes
Is the ID unit set properly?
No
Set the ID unit properly.
Yes
Replace the LED head, High Power Supply Unit or MCNT Board.

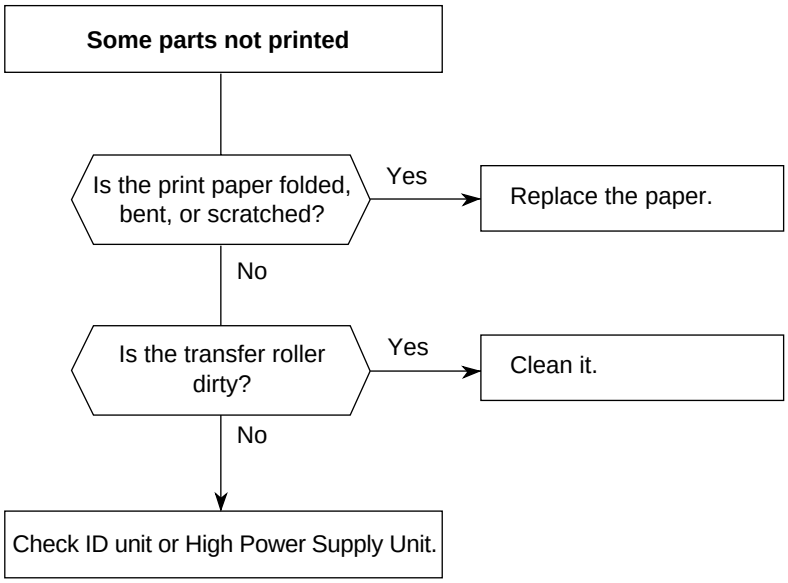
Troubleshooting flow chart 11:



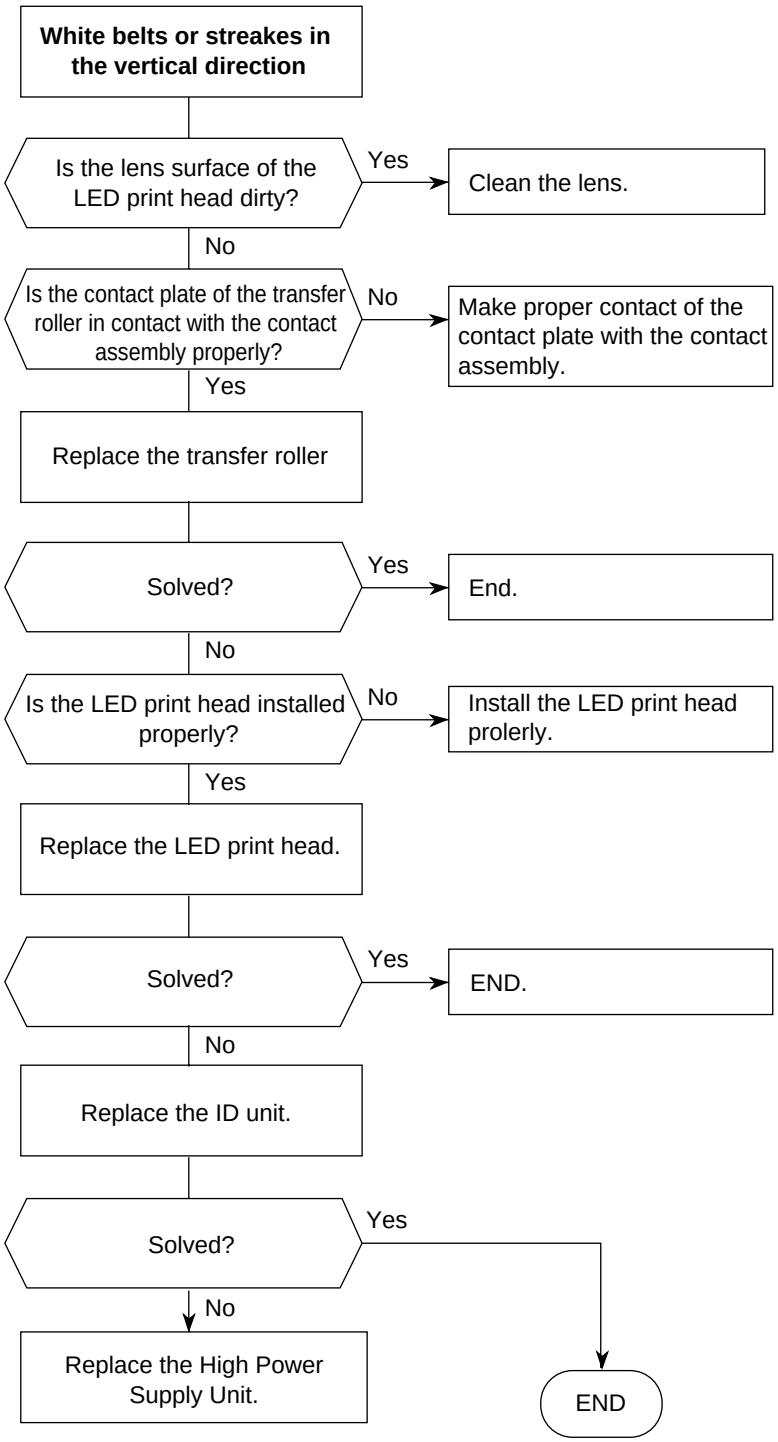
Troubleshooting flow chart 12:



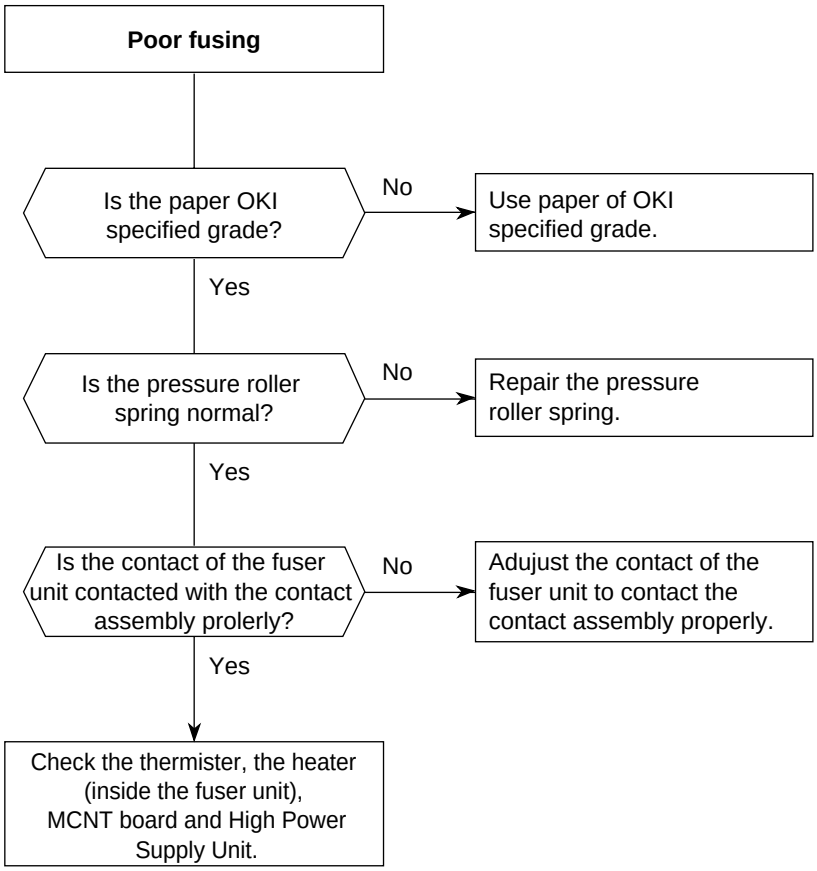
Troubleshooting flow chart 13:



Troubleshooting flow chart 14:



Troubleshooting flow chart 15:


Poor fusing
Is the paper OKI specified grade?
No
Use paper of OKI specified grade.
Yes
Is the pressure roller spring normal?
No
Repair the pressure roller spring.
Yes
Is the contact of the fuser unit contacted with the contact assembly prolerly?
No
Adujust the contact of the fuser unit to contact the contact assembly properly.
Yes
Check the thermister, the heater (inside the fuser unit), MCNT board and High Power Supply Unit.

8. DIPSWITCHS SETTING TABLES FOR EN2/INU NCU BOARDS

EN2
Each country's hardware parameters comparison table.

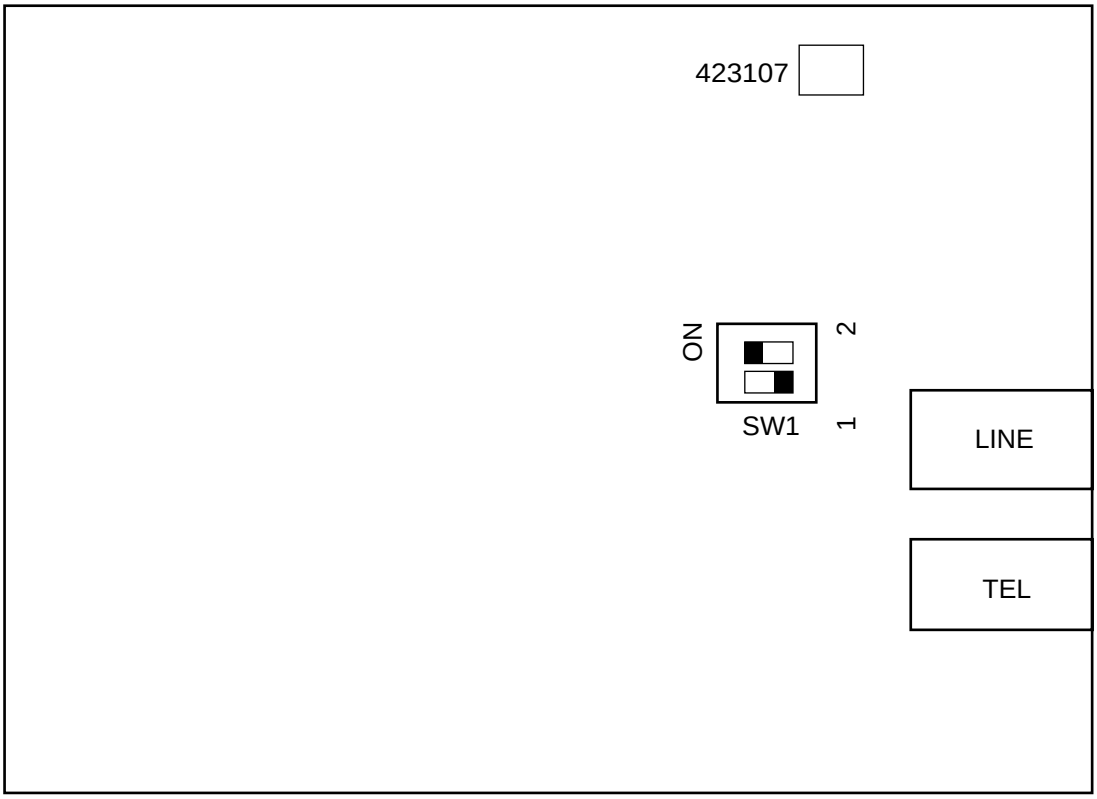
Dip-switch No.		EC countries (except UK and France)	UK	France	Remarks
SW1	1	OFF	ON	ON	Shunt wire
	2	ON	OFF	ON	Ring detection

1 EC Countries (except UK and France) (42310701)

This section gives the following instruction.

- DIP switch setting

For detail, see the figure below.

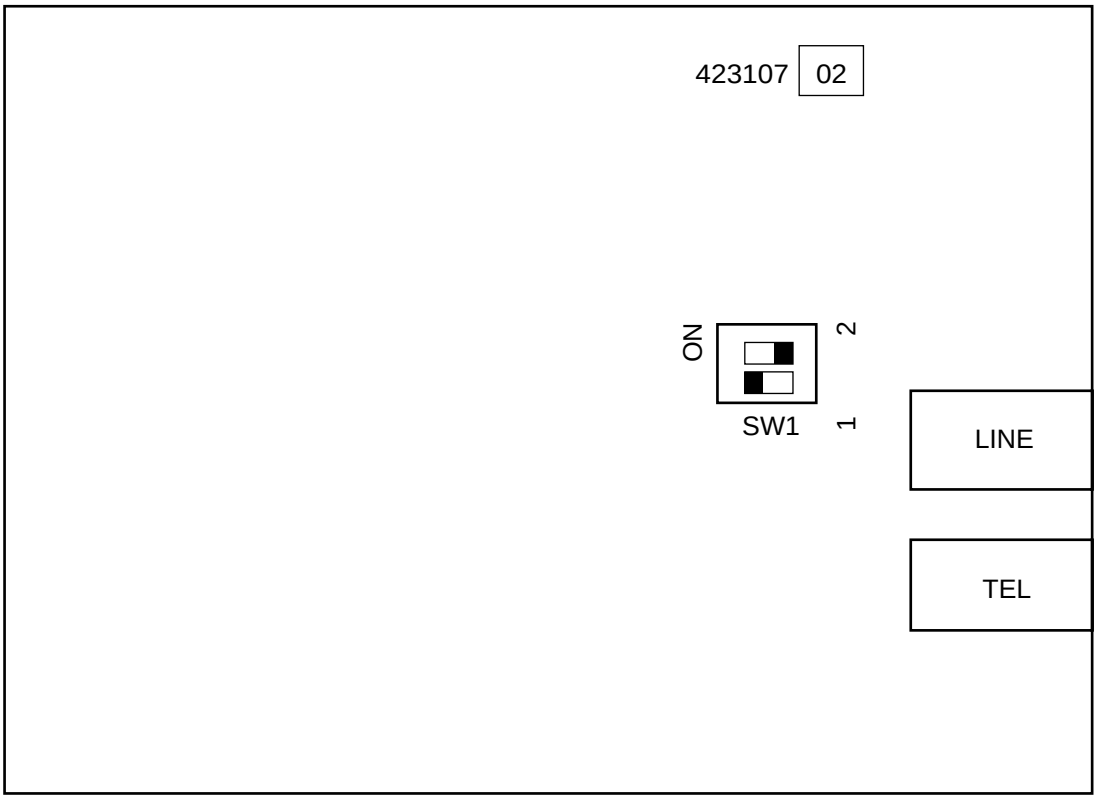


2 UK (42310702)

This section gives the following instruction.

- DIP switch setting
- Printing Drawing No.

For detail, see the figure below.

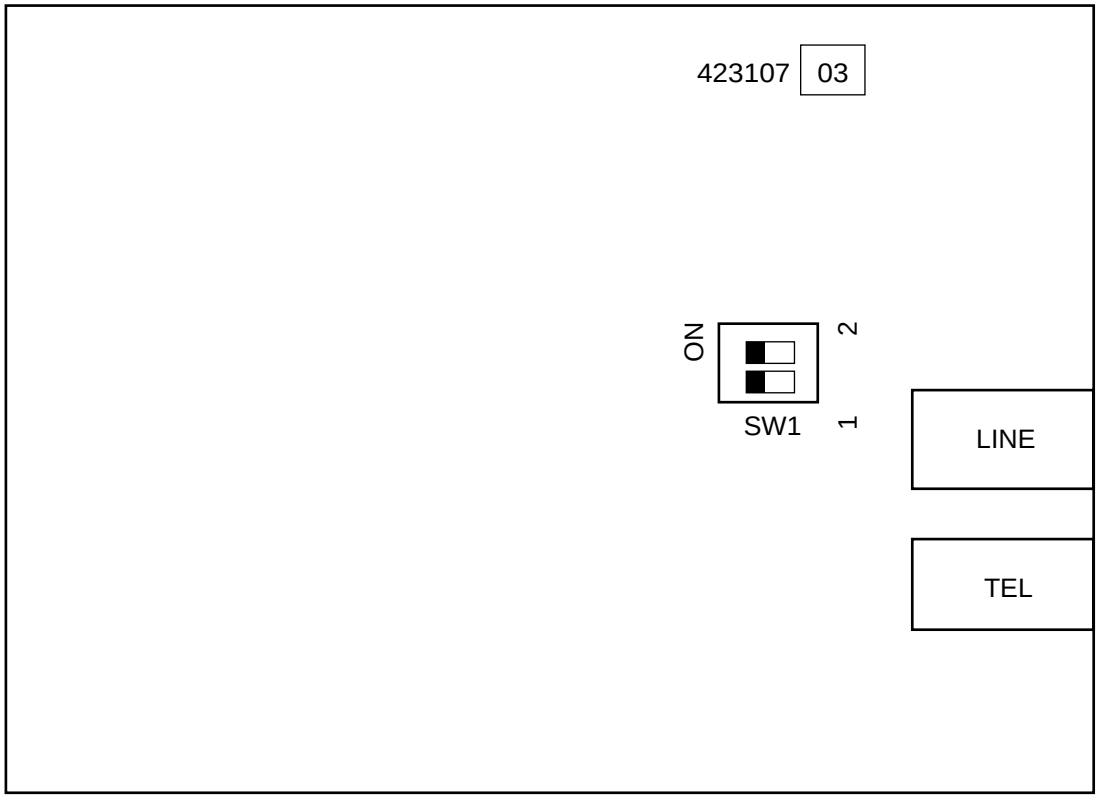


3 France (42310703)

This section gives the following instruction.

- DIP switch setting
- Printing Drawing No.

For detail, see the figure below.



INU (Setting as of Jan. 25, 2000)

Each country's hardware parameters comparison table.

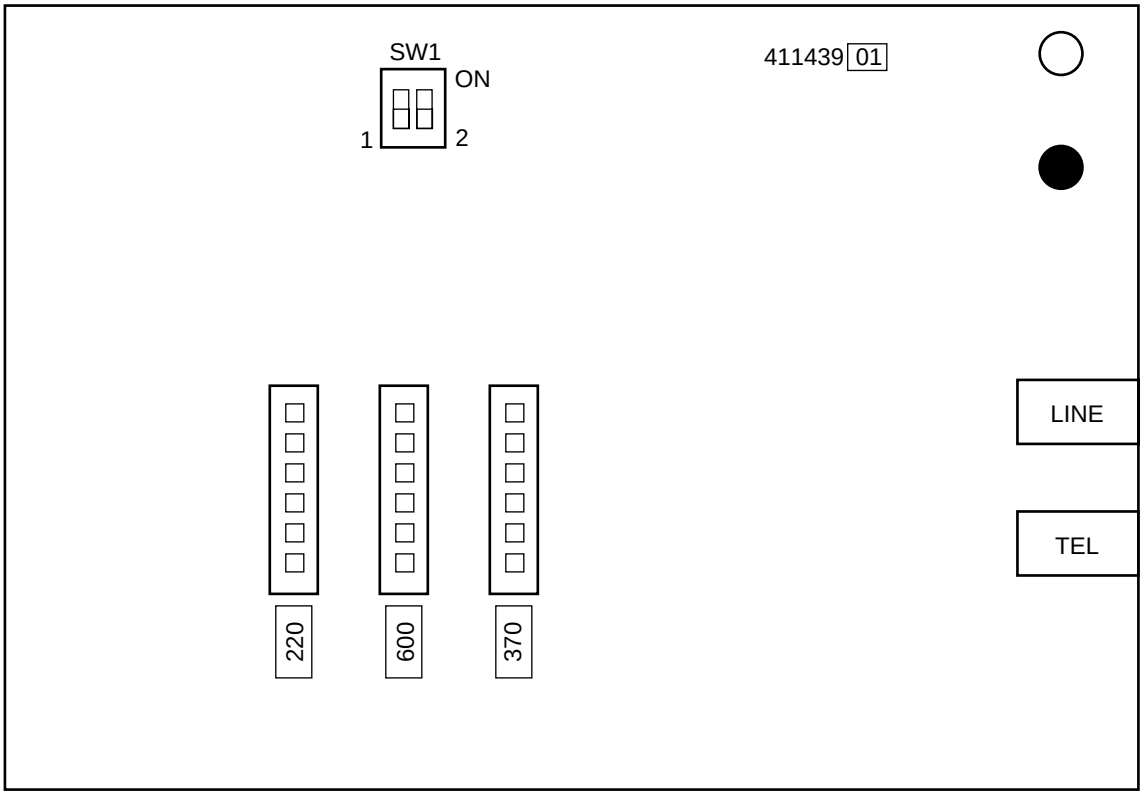
Dip-switch No.		USA Canada	Australia	New Zealand	Singapore China Malaysia	Poland (non-EC countries)	Remarks
SW1	1	—	ON	ON	ON	OFF	Ring Impedance
	2	—	OFF	OFF	OFF	ON	Ring Impedance

1 US, Canada (41143901)

This section gives the following instruction.

- Screw tightening position (a black dot)

For detail, see the figure below.



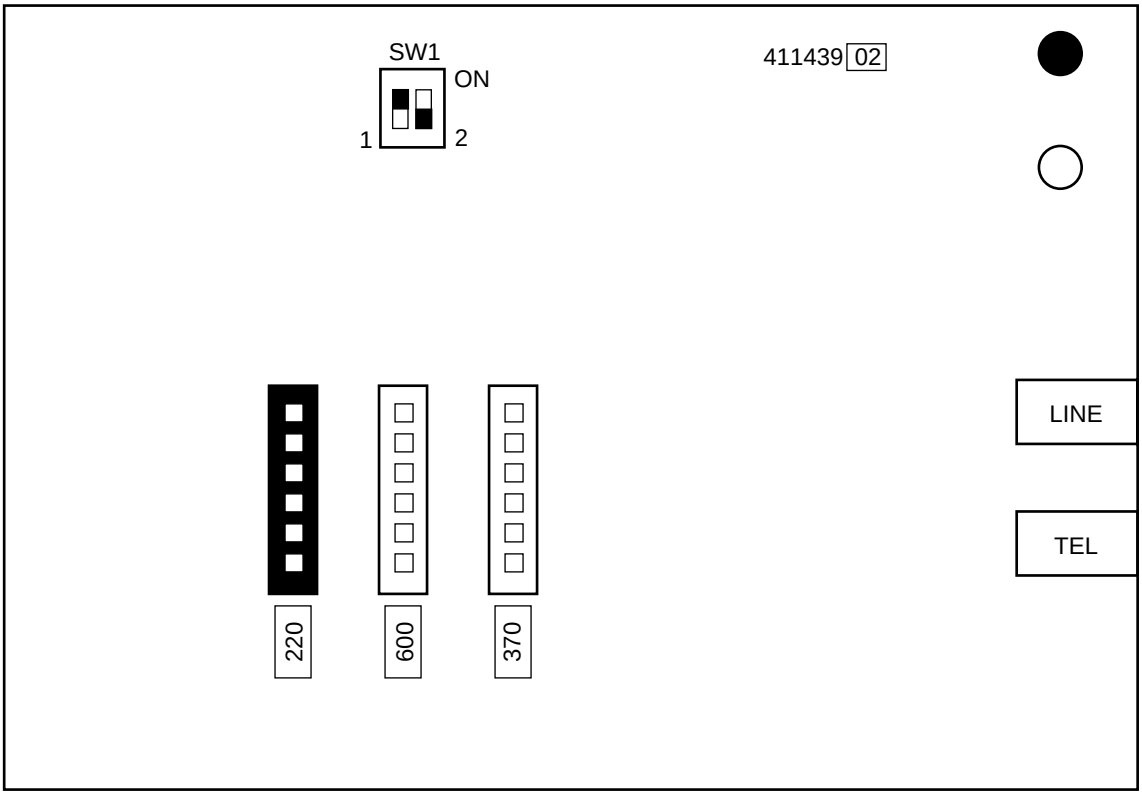
* Connector for short-plug and SW1 are not mounted.

2 Australia (41143902)

This section gives the following instruction.

- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

For detail, see the figure below.

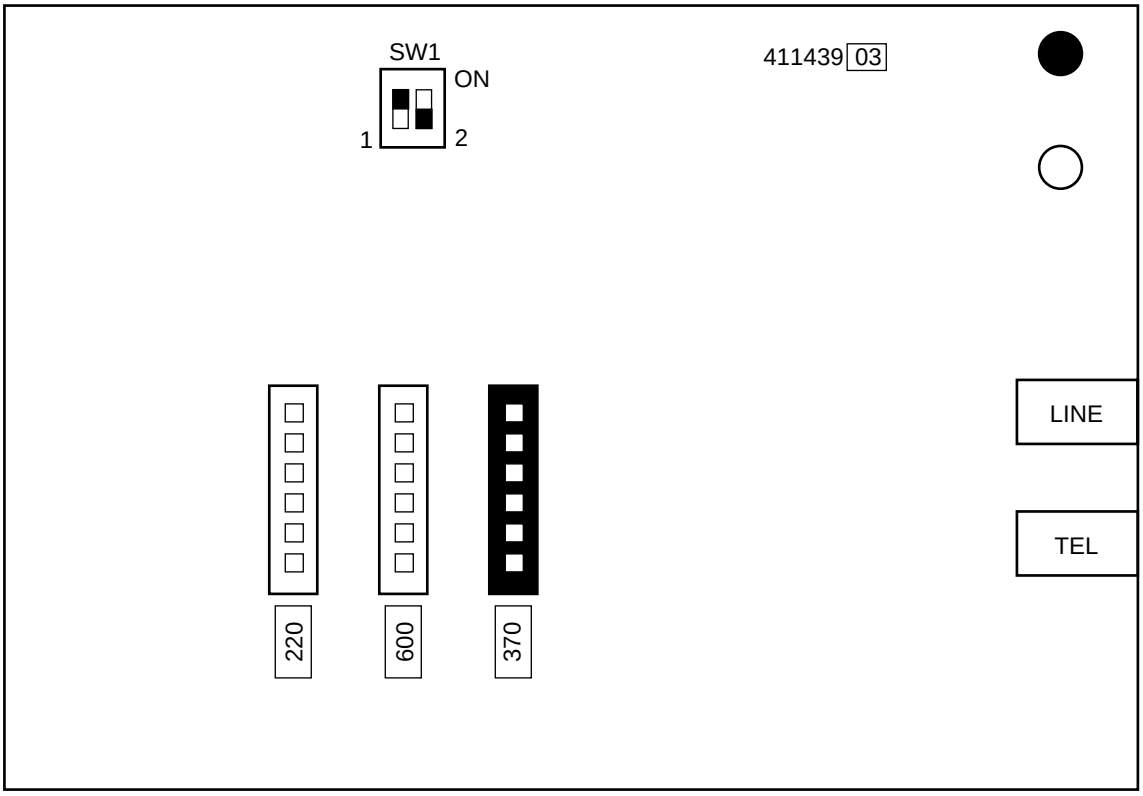


3 New Zealand (41143903)

This section gives the following instruction.

- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

For detail, see the figure below.

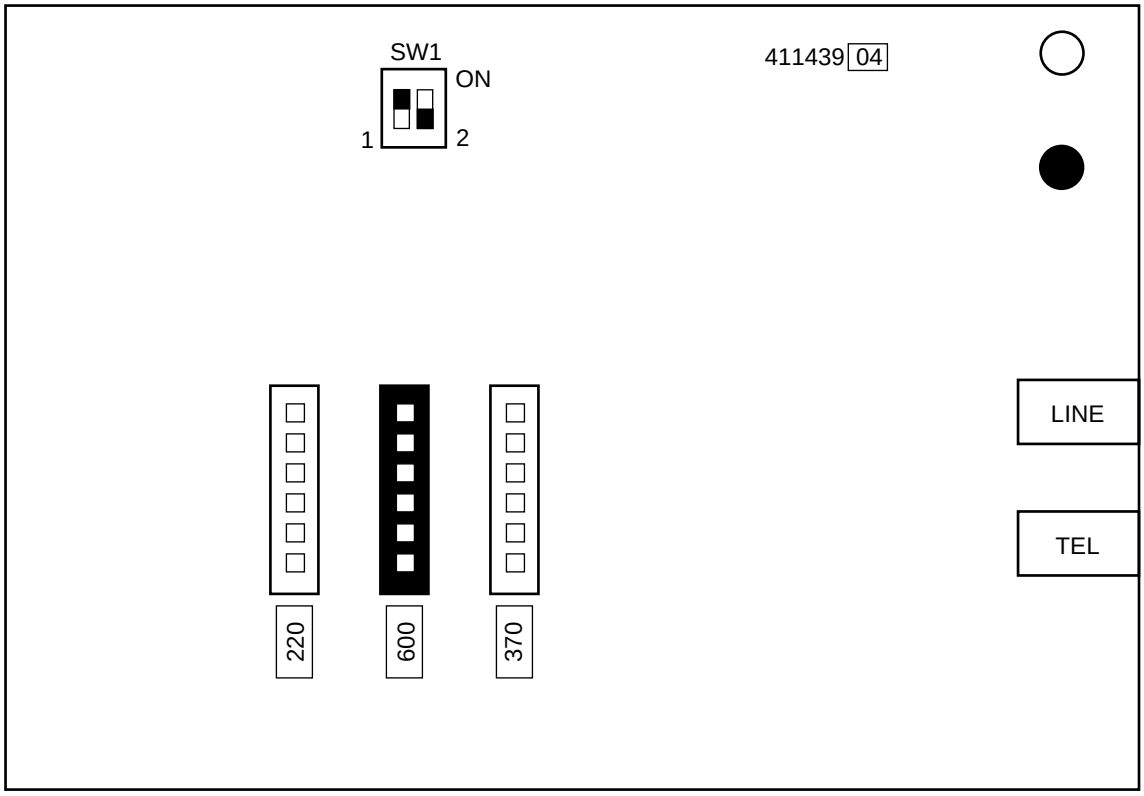


4 Singapore, China, Malaysia (41143904)

This section gives the following instruction.

- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

For detail, see the figure below.

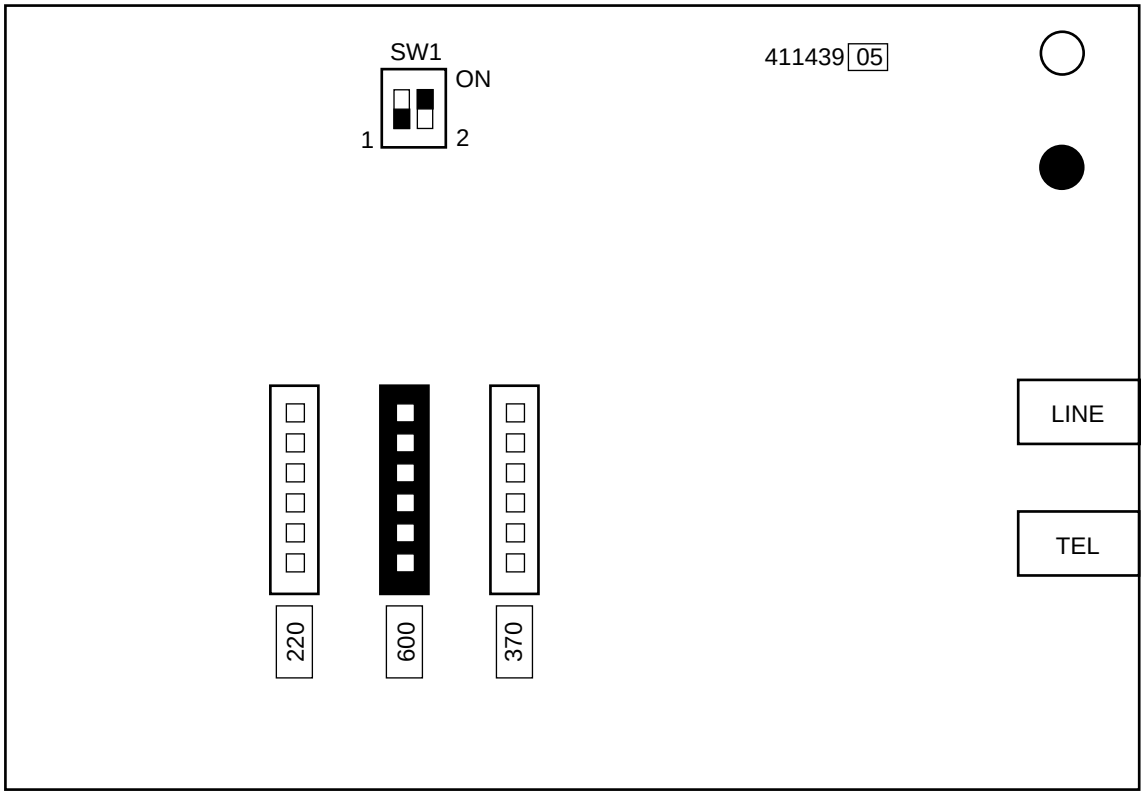


5 Poland (non-EC countries) (41143905)

This section gives the following instruction.

- DIP switch setting
- Short-plug location
- Screw tightening position (a black dot)

For detail, see the figure below.



APPENDIX A PC BOARD DESCRIPTION AND OPERATION

PREFACE

This manual has been designaed to provide basic information concerning the electric section for the component-level maintenance of the FX-060VP series facsimile transceiver. It includes such information which will help maintenance personnel to understand the circuit operations.

This manual will also provide the reader information concerning the functions of units and the relation-ships among the units which will assist you in conducting unit-level maintenance.

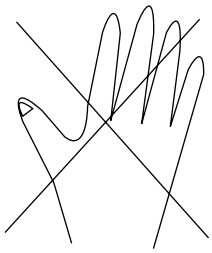
Detailed circuit diagram has been omitted from this manual to avoid duplications of contents with other associated manuals, For information not contained in this manual, refer to:

FX-060VP SERIES CIRCUIT DIAGRAM/PARTS LIST (Appendix C)

DANGER

Do Not
Touch !

HIGH VOLTAGE



You may be subjected to high-voltage electric shock by touching the following parts without an insulating material:

a. High-voltage unit

b. Contact ass'y

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1. Unit Configuration and Block Diagram

The unit configuration of the FX-060VP is as follows:

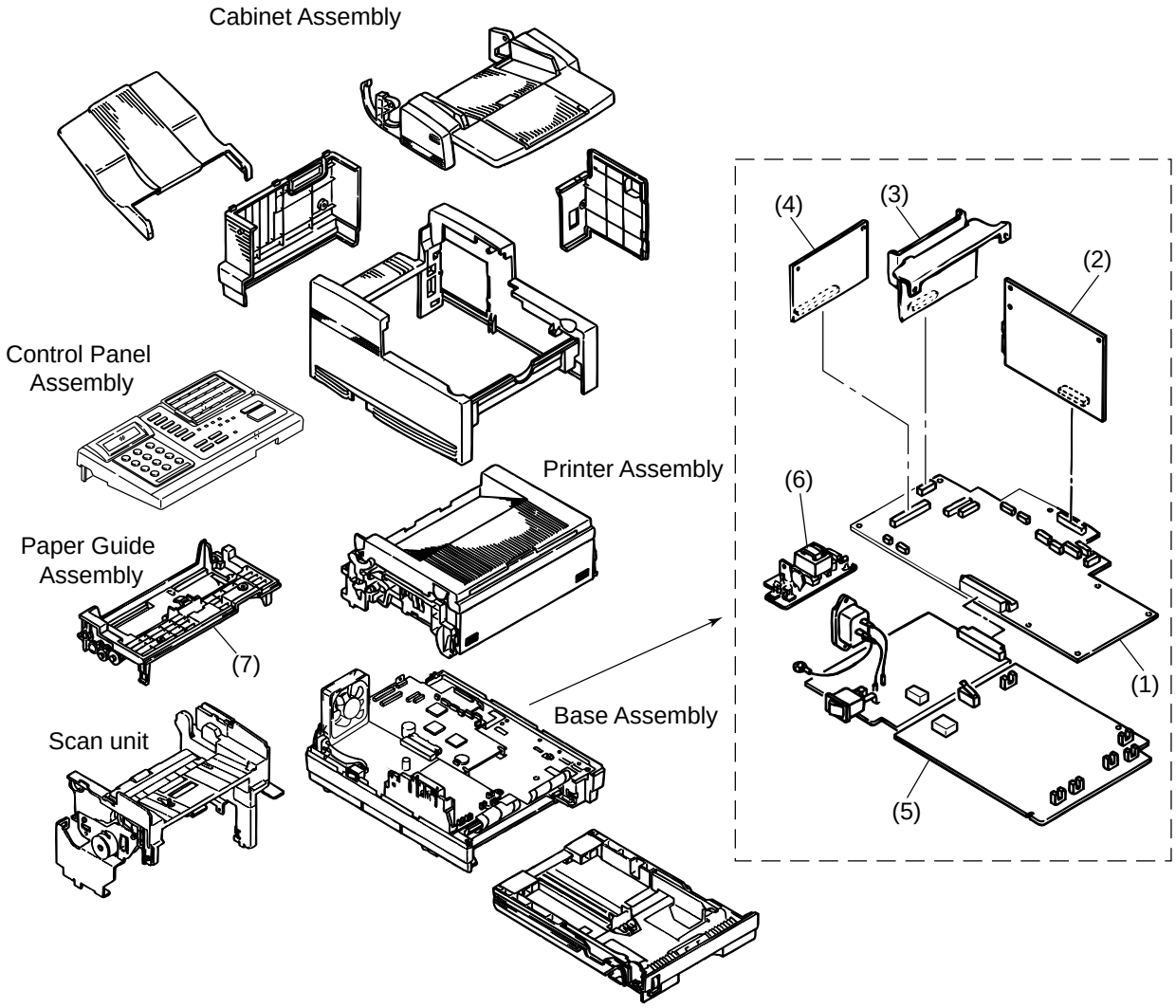


Figure 1.1 Unit Configuration

(1) Main control board (V60)
(2) Network control unit (NCU)
(3) PC interface board (CTT): option
(4) Memory board (MEM): option
(5) Power supply unit (120V, 230V)
(6) High power supply unit (H08)
(7) Operation panel board (P60)

2. Function of Each Unit

The section describes the principal functions of the individual units of the FX-060VP electrical sections.
Figure 2.1 shows the pertinent block diagram.

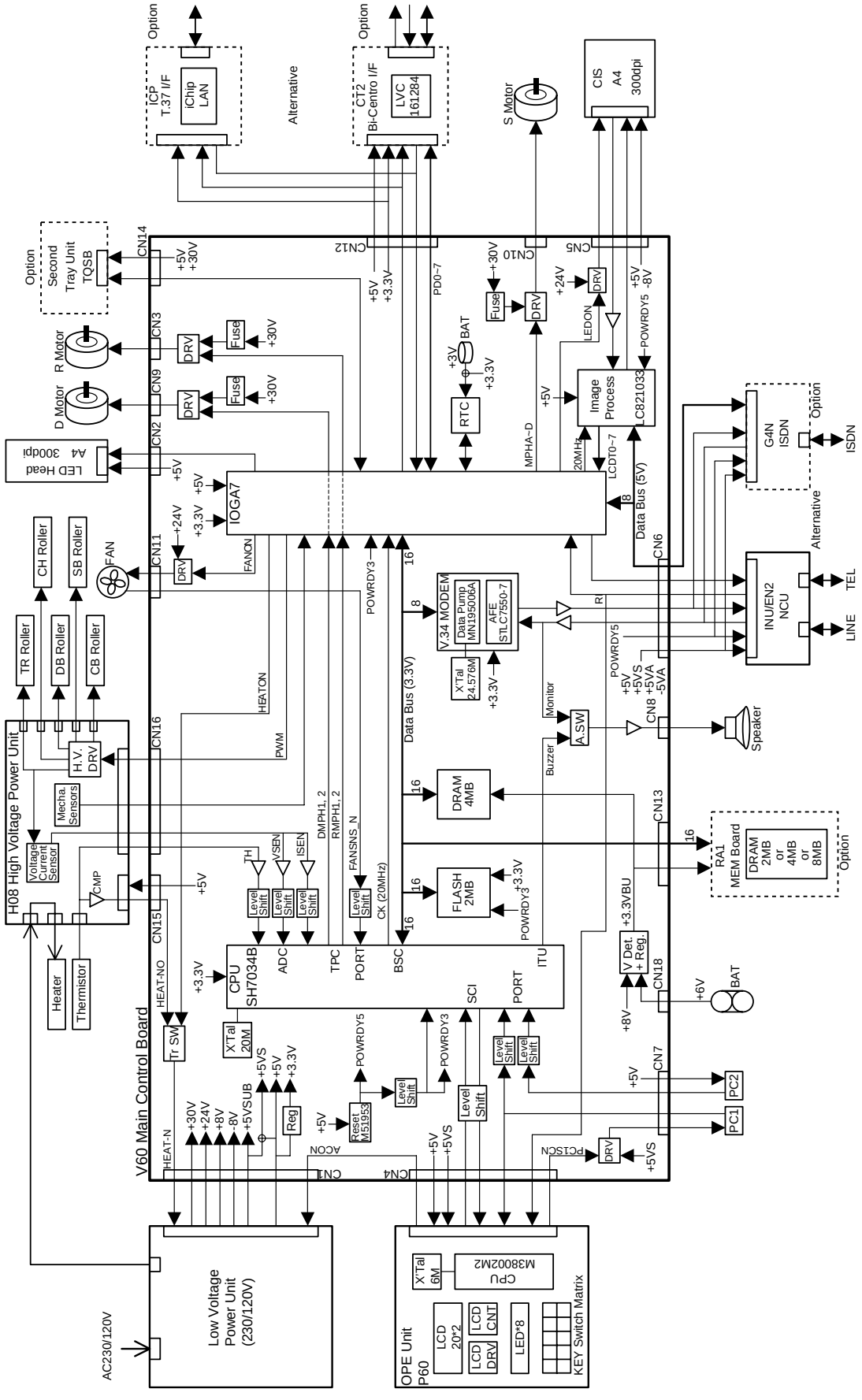


Figure 2.1 FX-060VP Block Diagram

Meaning of abbreviations used in Block Diagram

A.SW :	Analog switch
BAT :	Battery
CNi :	Connector number i
CPU :	Central processing unit
D-MOTOR :	Drum motor
DRV :	Driver
DRAM :	Dynamic random-access memory
FAN :	Fan motor
FLASH :	Flash memory
IOGA 7 :	Input output gate array
PCi :	Photocoupler number i
Reg. :	Regulator
R-MOTOR :	Resist motor
RTC :	Real time clock
S-MOTOR :	Send motor
Tr. SW :	Transistor switch
V. Det. :	Voltage Detector
X'tal :	Crystal oscillator

(1) V60 board
- IOGA7 (256P-QFP)
  Printer control
  OST-EX
  Buffer 640 kbytes
  DEC,(REL, TIFF, ACC)
  200-300/300-200 conversion
  Smoothing
  High-voltage control
  Peripheral input/output control
  1284 I/F
  T.37 I/F
  CS
  I/O port
  DMAC 2ch
- CPU (SH7034B: 112P-QFP)
  ROM: 64k × 8bit
  RAM: 4k × 8bit
- LC821033
  Image data processing
- Supervision of the following external statuses:
  Presence of document on hopper
  Presence of document at scanning position
- Send motor control
- Fan motor control
- Drum motor control
- Resist motor control
- MN195006 + STLC7550
  Modulation and demodulation for V.34
  Modulation and demodulation for V.33 and V.17
  Modulation and demodulation for V.29 and V.27 ter
  Generation of signal-frequency signals for tonal signals
  Detection of signal-frequency tonal signals
  Generation of dual time multiple-frequency signals for tone dialing

(2) Operation panel unit
- Supervision of switches on operation panel
- Control of LEDs on operation panel
- Control of LCD on operation panel

  LED : Light-emitting diode
  LCD : Liquid crystal display

(3) NCU board
EN2 .... UK, France, and EC countries
INU ..... US, Canada, Australia, New Zealand, Singapore, China, Malaysia and non-EC countries (Poland etc.)

- Conversion of receive data and receive signals to internal signal level
- Conversion of send data and send signals to external signal level
- Generation of dial pulses to telephone line
- Detection of ringing signal
- Detection of busy tone (conjunction with Modem unit)
- Detection of hook up signal
- Output of send data and send signals to telephone line
- Input of receive data and receive signals from telephone line

(4) Power Low Voltage unit: 120V/230V
- Conversion of main alternating current to the following direct currents:
  +5VSUB DC power supply (230V only)
  +5V DC power supply
  +8V DC/-8V DC power supply
  +24V DC power supply
  +30V DC power supply
- Supplying of main alternating current to fuser unit

(5) High Voltage unit: H08
- Generation of medium voltages +300V, -300V, +400V, -450V and 0V
- Generation of high voltages -1.35 kV, -0.75 kV and +3.5 kV

(6) MEM (memory) board (Option)
- DRAM (2 Mbytes: 1M $\times$ 16 bit $\times$ 1 or 4 Mbytes: 1M $\times$ 16 bit $\times$ 2 or 8 Mbytes: 4M $\times$ 16 bit $\times$ 1)
  Memory storage for ECM operations, memory broadcast, delayed broadcast, etc.

(7) CT2 board (Option)
- Driver circuits

(8) TQSB board (Option)
Second paper cassette unit.
- MOS-CPU
- Motor control

(9) G4N board (Option)
- ISDN Communications

2.1 Explanation of Signal Flow

(1) Copy Mode

Figure 2.2 shows the picture signal route in local copy mode
One-line picture data is transferred to LC821033 (image processing LSI) via operational amplifier from the scanning unit (CIS: contact image sensor) as an analog data. Here, the picture data undergoes various kinds of picture processings, converted to two-level binary data (black and white) and then sent to IOGA7 (scanning control). The one-line binary picture data from IOGA7 is stored into DRAM. When the data for one page has been stored in the DRAM, the data is read out from the DRAM and sent to IOGA7. The data is converted into a serial data by the picture control of IOGA7 and transferred to the LED print head for printing as HDATA0. Writing of data into the page memory is also possible during the printing operation.

(2) G3 Send Mode

Figure 2.3 shows the G3 send picture signal route
In the G3 mode, the data transfer route from the scan unit up to the DRAM is the same as in the copy mode described in (1).

The picture data for one-line is transferred from DRAM to CPU. The CPU performs the picture data processing (encode) for this picture data (FILLER, fill bits are inserted etc.) and again stores into the DRAM. The stored encoded data is output from DRAM to the MODEM under the control of CPU. After modulation, the picture signal “S” is sent to the NCU board as the transmission data. The transmission data “S” goes through the amplifier and is sent to the telephone line L1 and L2 via the transformer T1 as high speed signal.

(3) G3 Receive Mode

Figure 2.4 shows the G3 receive picture signal route
In the G3 mode, the high-speed picture signal arriving from the telephone line at L1 and L2 of NCU passes through the transformer T1 and the amplifier and is input to the MODEM as “R” signal. After demodulation by modem, the picture data is sent to CPU. The CPU performs the picture data processing (decode) for this picture data and stores into the DRAM. Then, the stored picture data is again written into DRAM (as a page memory) by the picture processing control of CPU. When the data for one page has been stored in the DRAM, the data is read out from the DRAM and sent to IOGA7. The picture data is converted into a serial data by the printer control of IOGA7 and transferred to the LED print head for printing as HDATA 0.

(4) PC Print

Figure 2.5 shows the signal route in PC Print mode.
The data input from the CT2's parallel I/F is input, through the IOGA7, to the DRAM using DMA.
The input data is transferred to the Decoding block in the IOGA7 using DMA.
In the Decoding block, the data is expanded in the 1-line raster buffer in the IOGA7. Then, the expanded data is sent to the video block in the IOGA7 in response to a 1-line synchronous signal. In the video block, image processing is performed for printing and the resultant data is transferred to the LED head.

(5) PC Scanner

Figure 2.6 shows the signal route in PC Scanner mode.
The data transfer route from the scan unit up to the DRAM is the same as in the copy mode described in (1).
The data input to the IOGA7 is temporarily written into the DRAM. The written data is compressed to TIF data by firmware, then written into the DRAM again.
The written TIF data is sent to the CT2's parallel I/F through the IOGA7.

(6) PC-FAX G3 TX

Figure 2.7 shows the signal route in PC-FAX TX mode.
The data encoded and HDLC framed in PC is input to IOGA7 via the parallel I/F to be transferred to the DRAM under the control of DMA.
The stored encoded data is output from DRAM to the MODEM under the control of CPU.
After modulation, the picture signal "S" is sent to the NCU board as the transmission data.
The transmission data "S" goes through the amplifier and is sent to the telephone line L1 and L2 via the transformer T1 as high speed signal.

(7) PC-FAX G3 RX

Figure 2.8 shows the signal route in PC-FAX RX mode.
In the PC-FAX RX mode, the high-speed picture signal arriving from the telephone line at L1 and L2 of NCU passes through the transformer T1 and the amplifier and is input to the MODEM as "R" signal. After demodulation by modem, received binary data is sent from the MODEM to DRAM, under the control of CPU.
The data written into the DRAM is transferred to the IOGA7 by the DMA to be output to PC via parallel I/F. The PC deframes and decodes the received data to convert it into image data.

(8) ISDN-G3 TX mode

Figure 2.9 shows the signal route of this mode.
The signal route from the image sensor to the LC821033, DRAM, CPU, IOGA7, and MODEM is the same as that of the item (2), “G3 send mode”. The analog signal “S” encoded and modulated in the MODEM is sent to the G4N board as the send signal. The analog signal is converted into the digital signal by the PCM codec on the G4N board to be sent to an ISDN line.

(9) ISDN-G3 RX mode

Figure 2.10 shows the signal route of this mode.
The high-speed digital image signal received from an ISDN line is converted to analog signal by the PCM Codec on the G4N board. The converted analog signal is then input to the modem on the MCNT as “R” signal. The signal route from the modem to the LED head is the same as that of the item (3) “G3 receive mode”.
The signal demodulated by the modem is decoded by the CPU and stored into the DRAM. The signal is then converted into print data by the IOGA7 (printer control) to be transferred to the LED head as HDATA0.

(10) ISDN PC-FAX G3 TX mode

Figure 2.11 shows the signal route of this mode.
The signal route from the PC to the modem is the same as that described in item (6) “PC-FAX TX”. The data encoded and HDLC framed in the PC is transferred to the DRAM via the parallel I/F, IOGA7, and DMA. The signal is then transferred to the modem by the CPU.
The modulated analog signal “S” is sent to the G4N board, where the signal is converted into digital signal to be output to an ISDN line.

(11) ISDN PC-FAX G3 RX MODE

Figure 2.12 shows the signal route of this mode.
The high-speed digital image signal received from an ISDN line is converted to analog signal by the PCM Codec on the G4N board. The converted analog signal is then input to the modem on the MCNT as “R” signal. The signal route from the modem to PC is the same as that of the item (7) “PC-FAX RX”.
The received binary data demodulated by the modem is sent to the DRAM via the CPU and transferred to the IOGA7 by the DMA to be output to the PC via parallel I/F. The PC deframes and decodes the received data to convert it into image data.

(12) ISDN G4 TX mode

Figure 2.13 shows the signal route of this mode.
The signal route from the image sensor to the LC821033, DRAM, CPU, IOGA7, and DRAM is the same as that of the item (2), “G3 send mode”.
The read one-line image data is stored in the DRAM, encoded by the CPU and again stored in the DRAM.
In G4 TX mode the encoded data is transferred by the control of CPU to the dual-port RAM(DPRAM) on the G4N board. The transferred data is sent to a line via the ISDN controller and ISDN driver by the control of the CPU on the G4N board.

(13) ISDN G4 RX mode

Figure 2.14 shows the signal route of this mode.
The signal received from an ISDN line is transferred to the dual-port RAM (DPRAM) by the control of the CPU via the ISDN driver and ISDN controller of the G4N board.
Notified of the existence of received G4 data by interruption, the CPU of the MCNT board transfers the data from the DPRAM to the DRAM.
The signal route from the DRAM to the LED head is the same as that of item (3) “G3 receive mode”.
The CPU reads out the data stored in the DRAM and decodes it to store it again in the DRAM. The data is transferred to the IOGA7 (printer control) by the DMA, converted into image data, and transferred to the LED head for printing.

(14) Internet FAX TX mode

Figure 2.15 shows the signal route of this mode.
The signal route from the image sensor to the LC821033, DRAM, IOGA7, CPU and DRAM is the same as that of the item (2), “G3 send mode”.
The read one-line image data is stored in the DRAM, encoded by the CPU and again stored in the DRAM.
In Internet FAX TX mode the encoded data is transferred by the control of CPU to the ICP board via IOGA7. The transferred data is sent to LAN via the iChip LAN on the ICP board.

(15) Internet FAX RX mode

Figure 2.16 shows the signal route of this mode.
The signal received from LAN is transferred to IOGA7 via the iChip LAN on the ICP board.
The CPU of the MCNT board transfers the data from the IOGA7 to the DRAM.
The signal route from the DRAM to the LED head is the same as that of item (3) “G3 receive mode”.
The CPU reads out the data stored in the DRAM and decodes it to store it again in the DRAM.
The data is transferred to the IOGA7 (printer control) by DMA, converted into image data, and transferred to the LED head for printing.

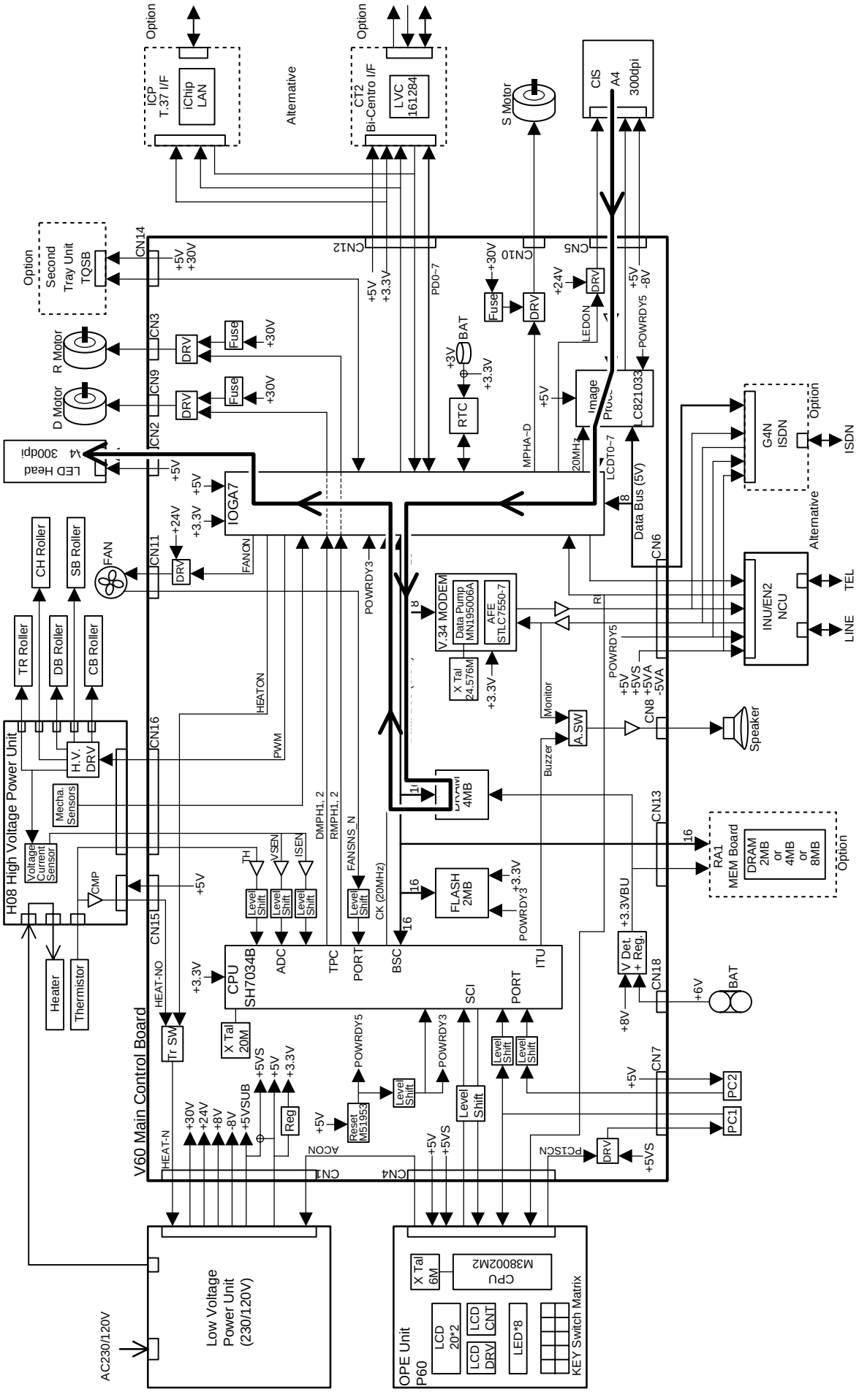


Figure 2.2 Copy Picture Signal

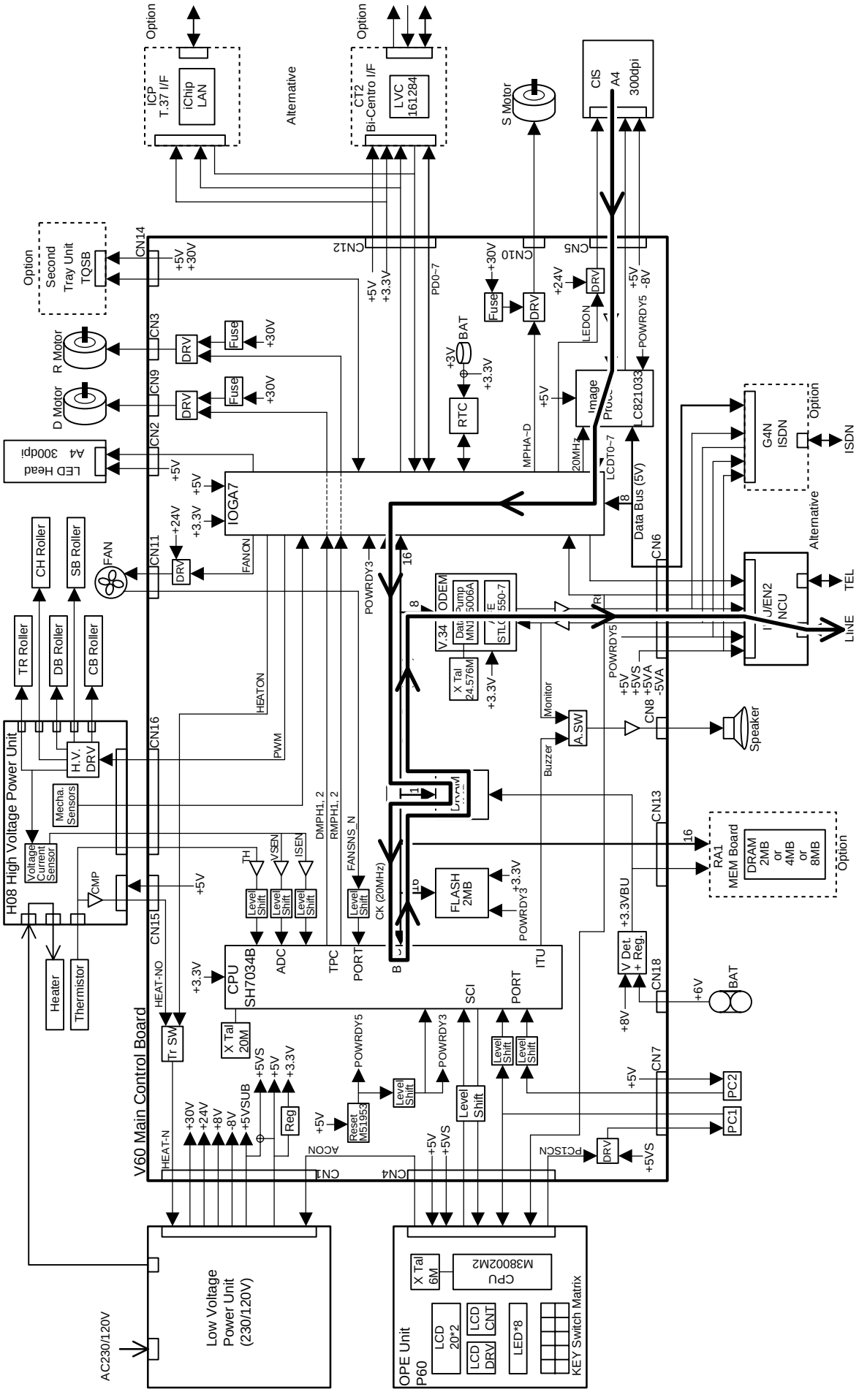


Figure 2.3 G3 Send Picture Signal

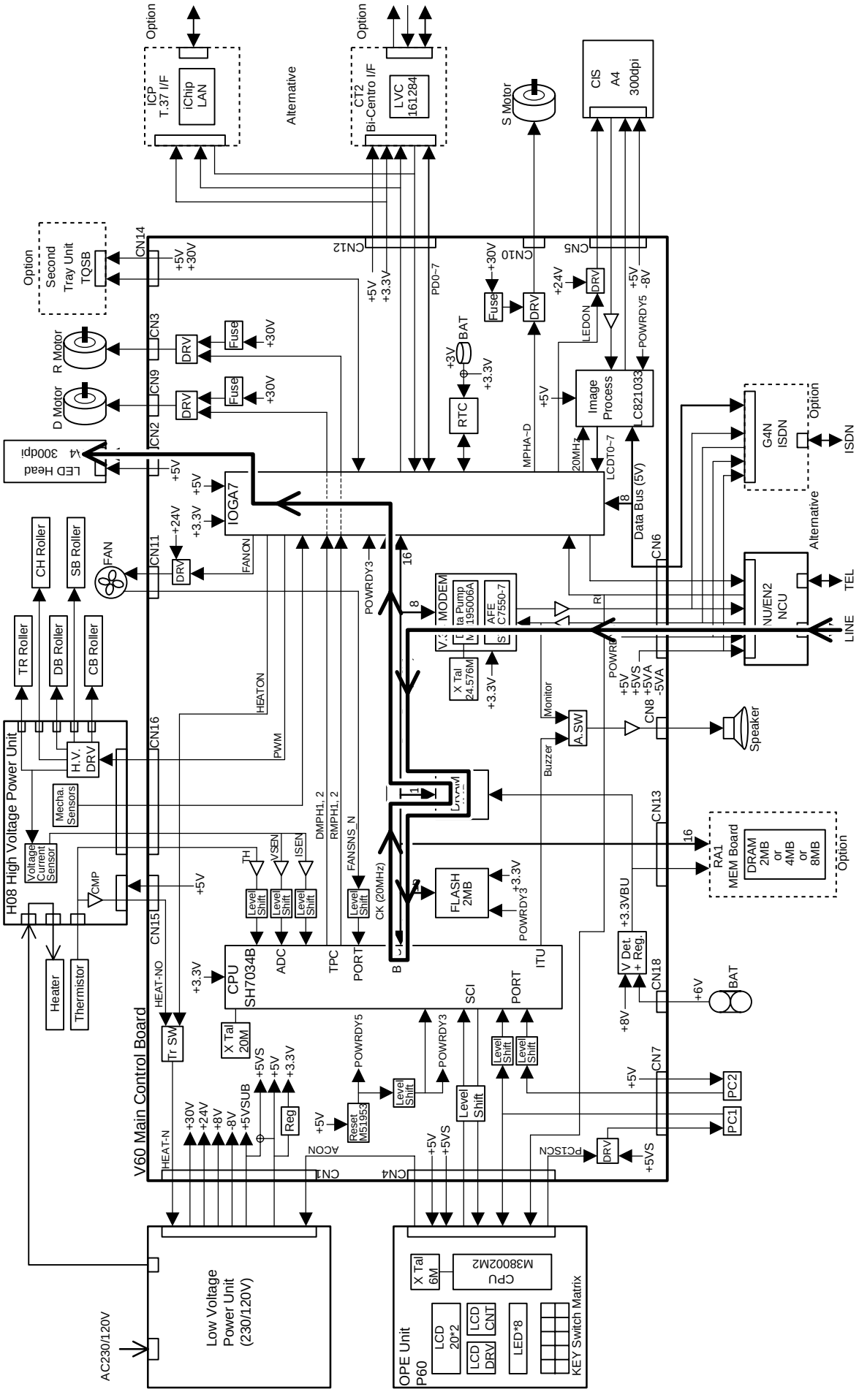


Figure 2.4 G3 Receive Picture Signal

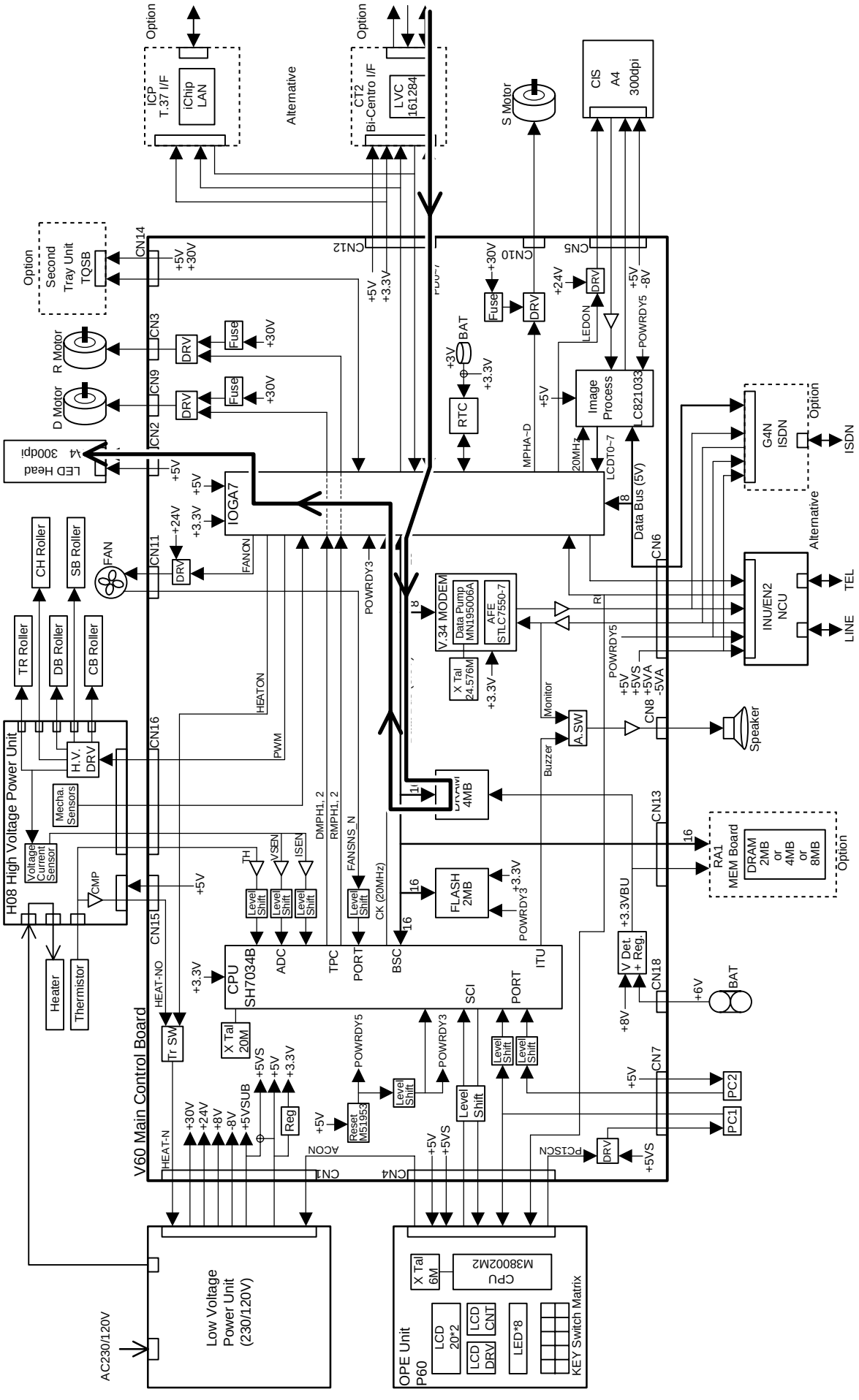


Figure 2.5 PC Print Picture Signal

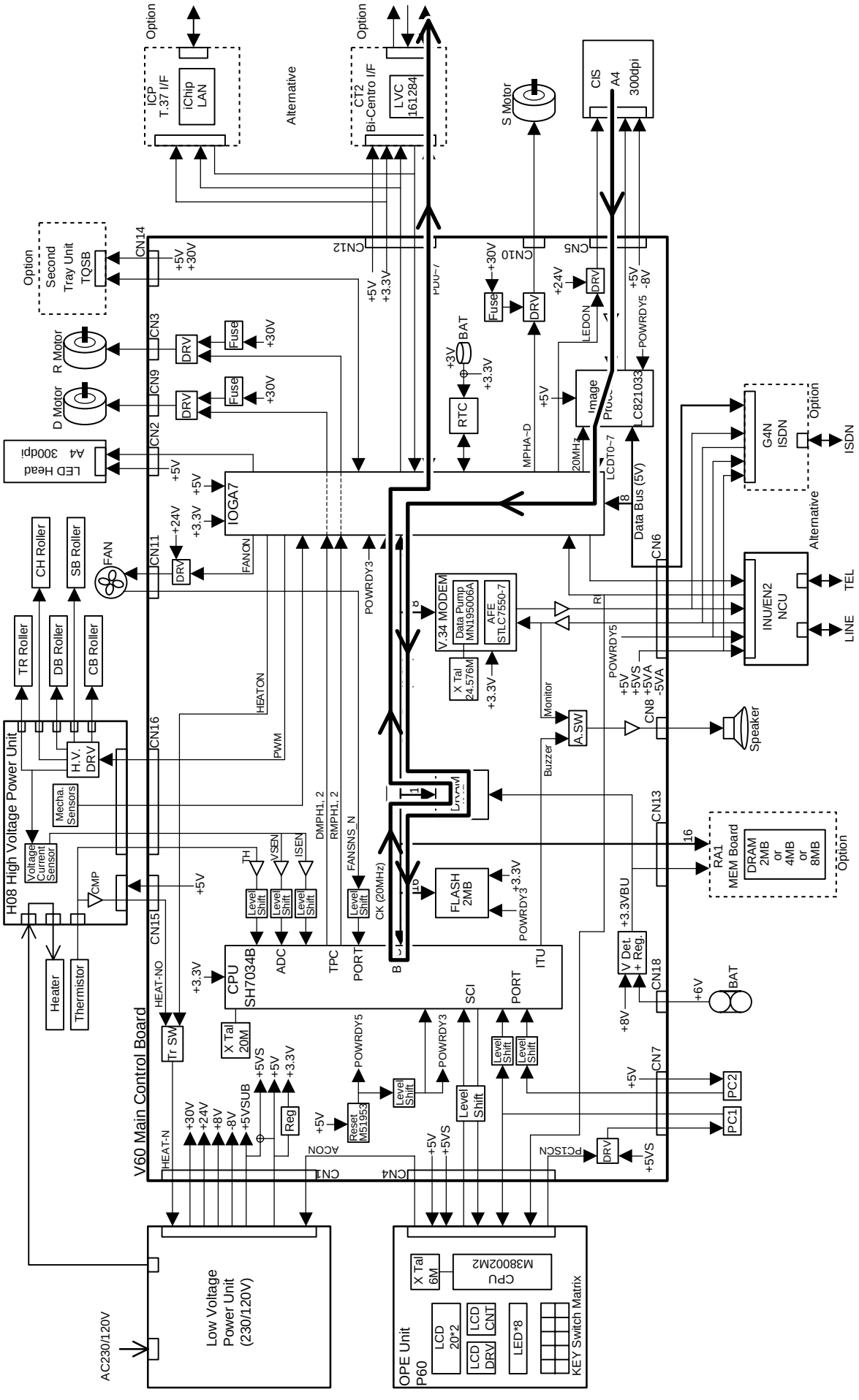


Figure 2.6 PC Scanner Picture Signal

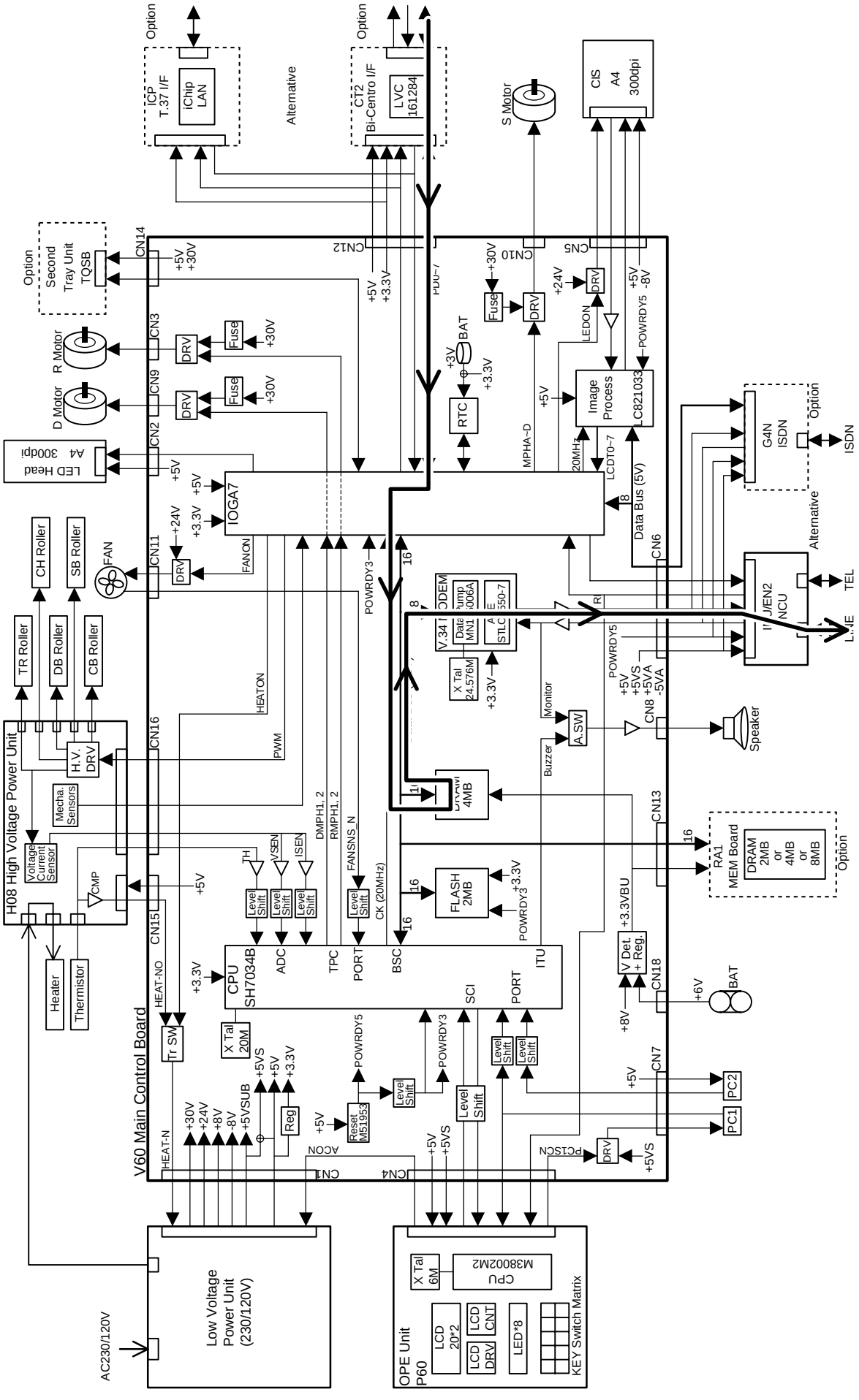


Figure 2.7 PC-FAX G3 TX Picture Signal

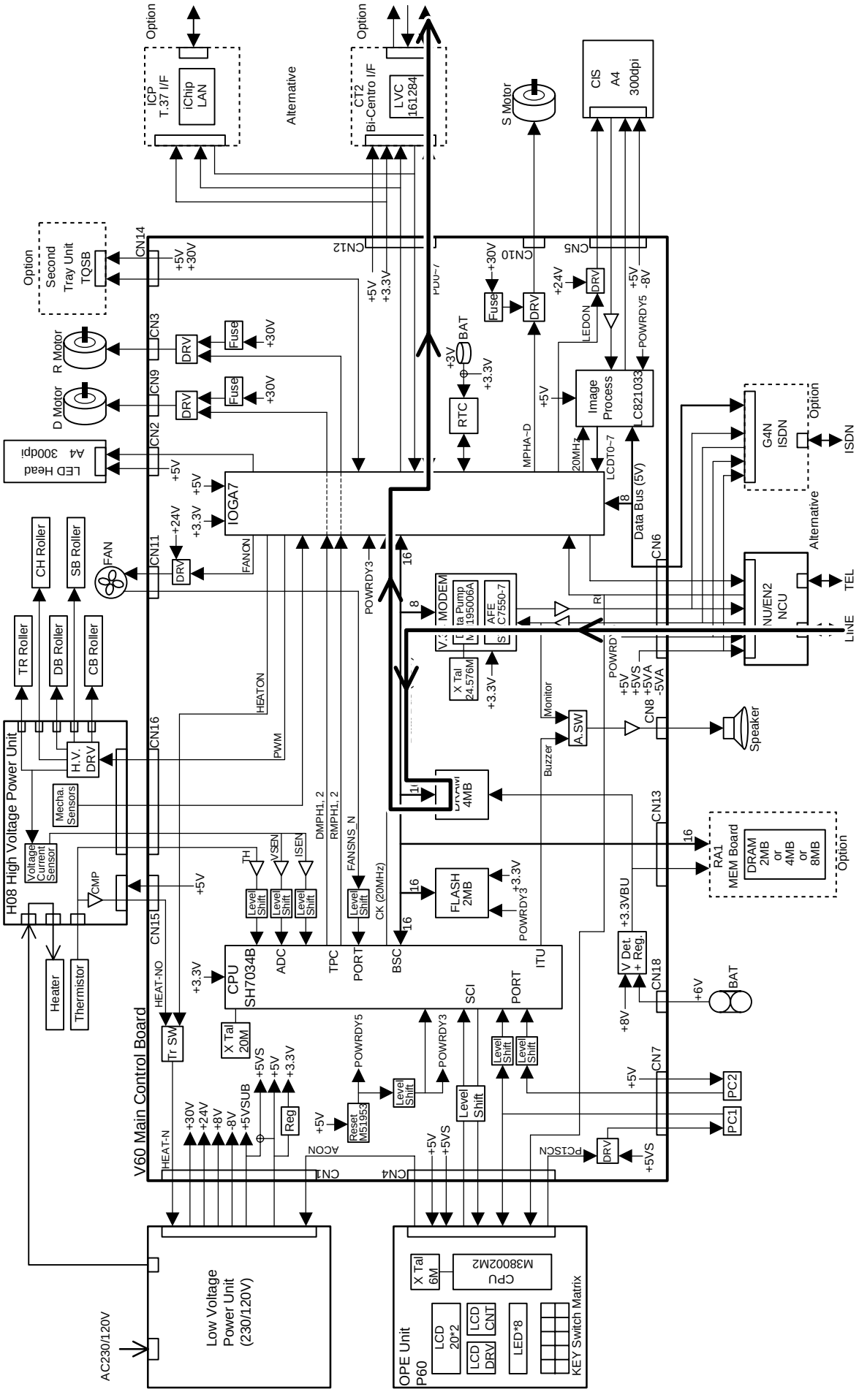


Figure 2.8 PC-FAX G3 RX Picture Signal

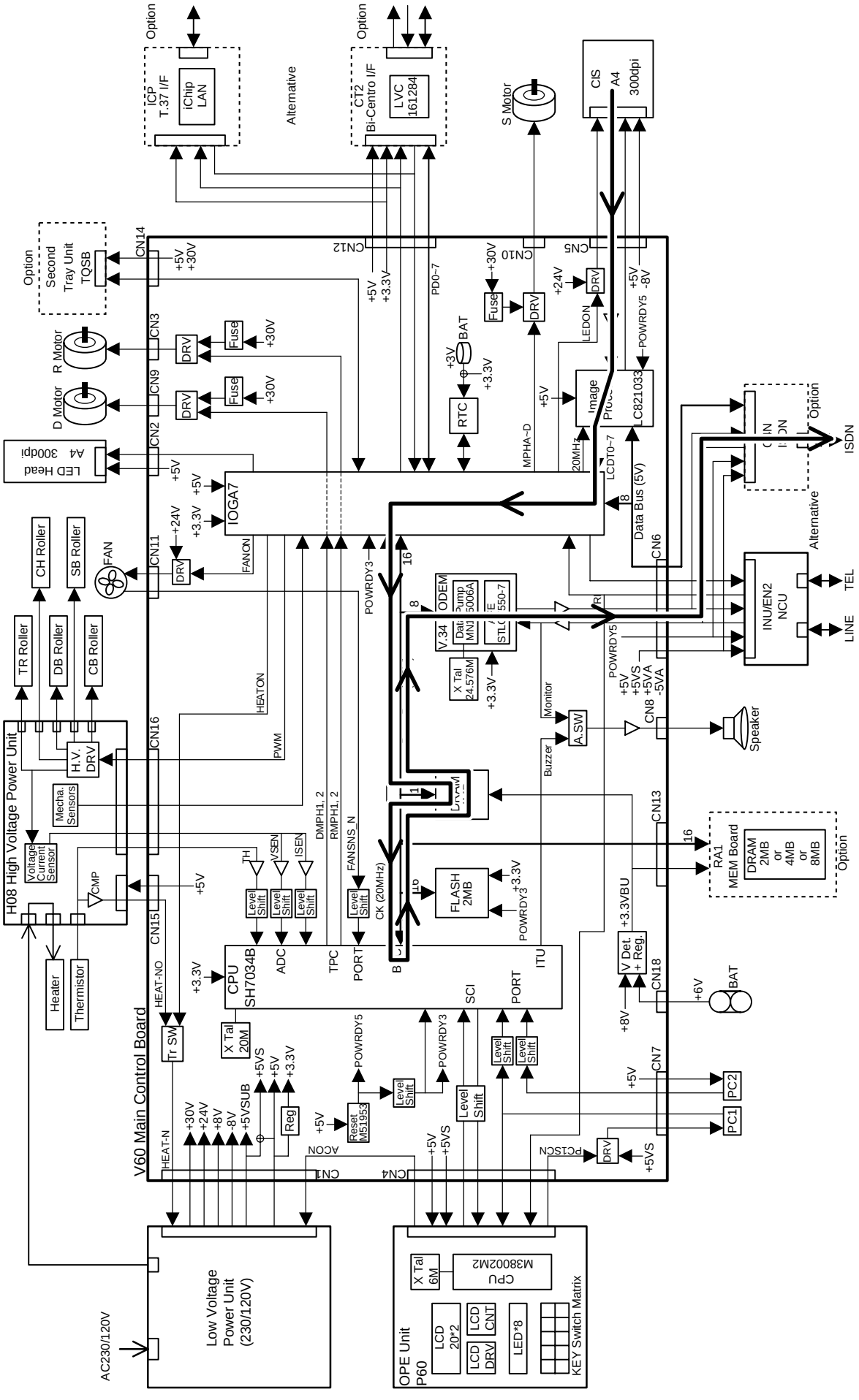


Figure 2.9 G3 TX Picture Signal

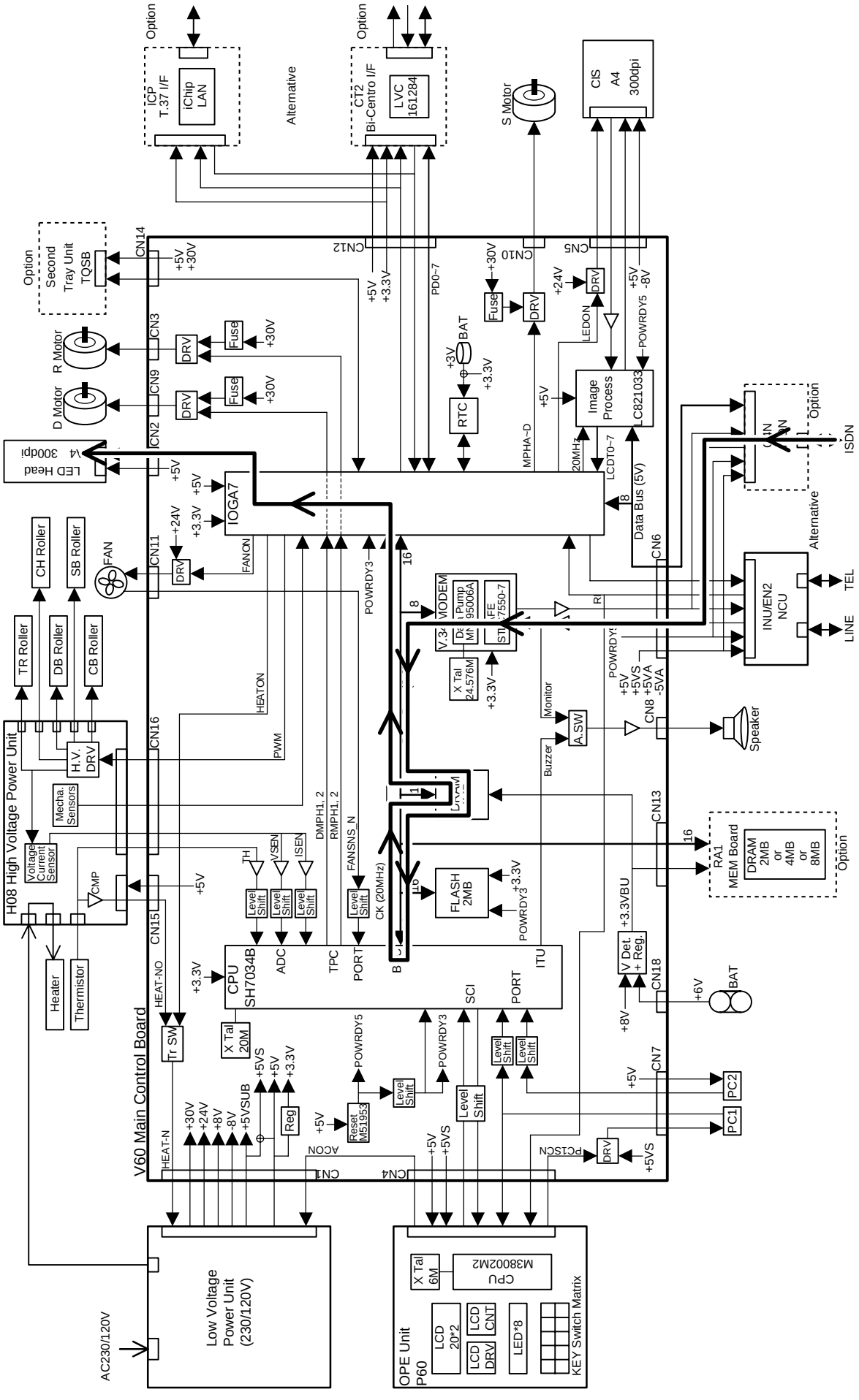


Figure 2.10 ISDN G3 RX Picture Signal

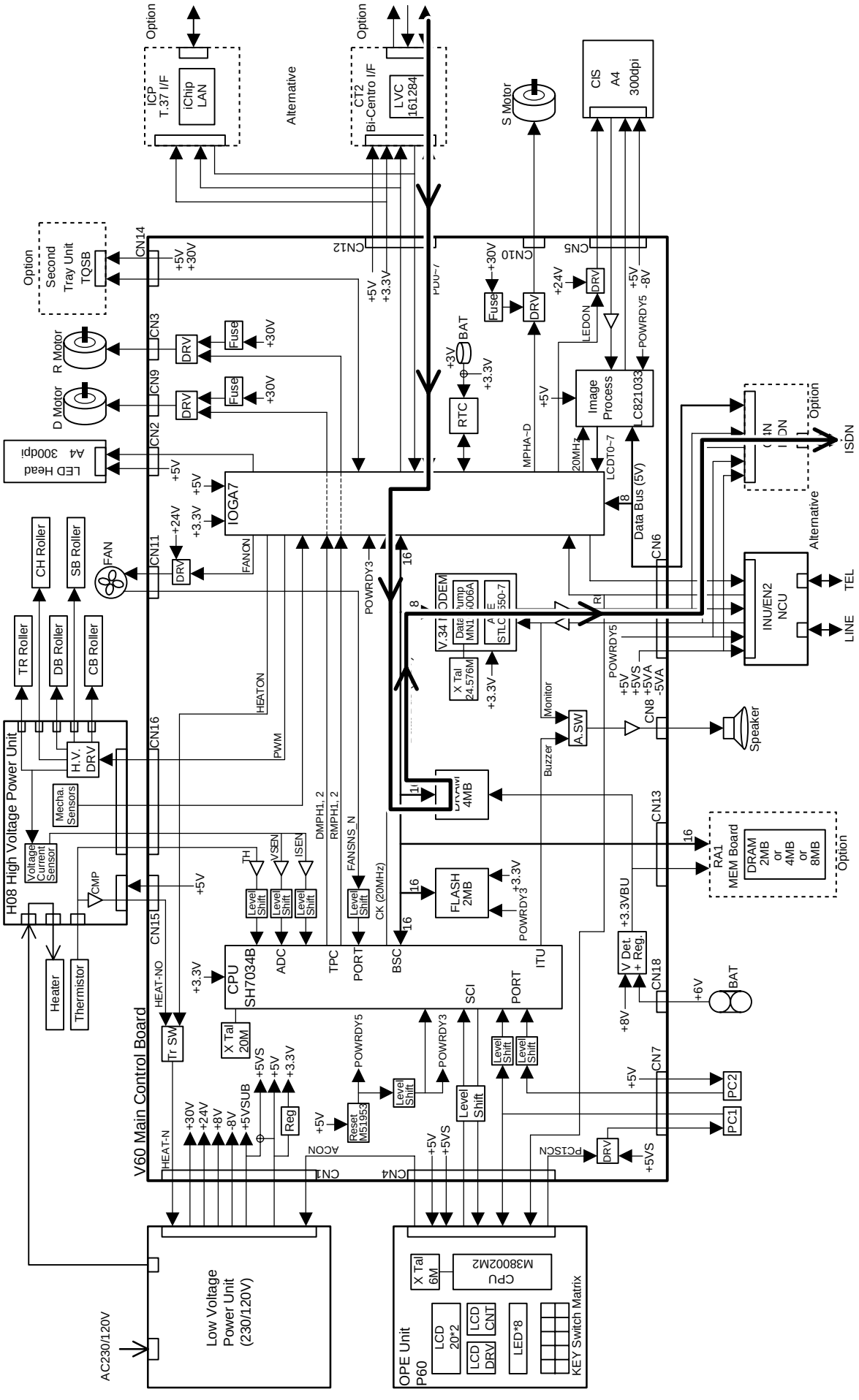


Figure 2.11 ISDN PC-FAX G3 TX Picture Signal

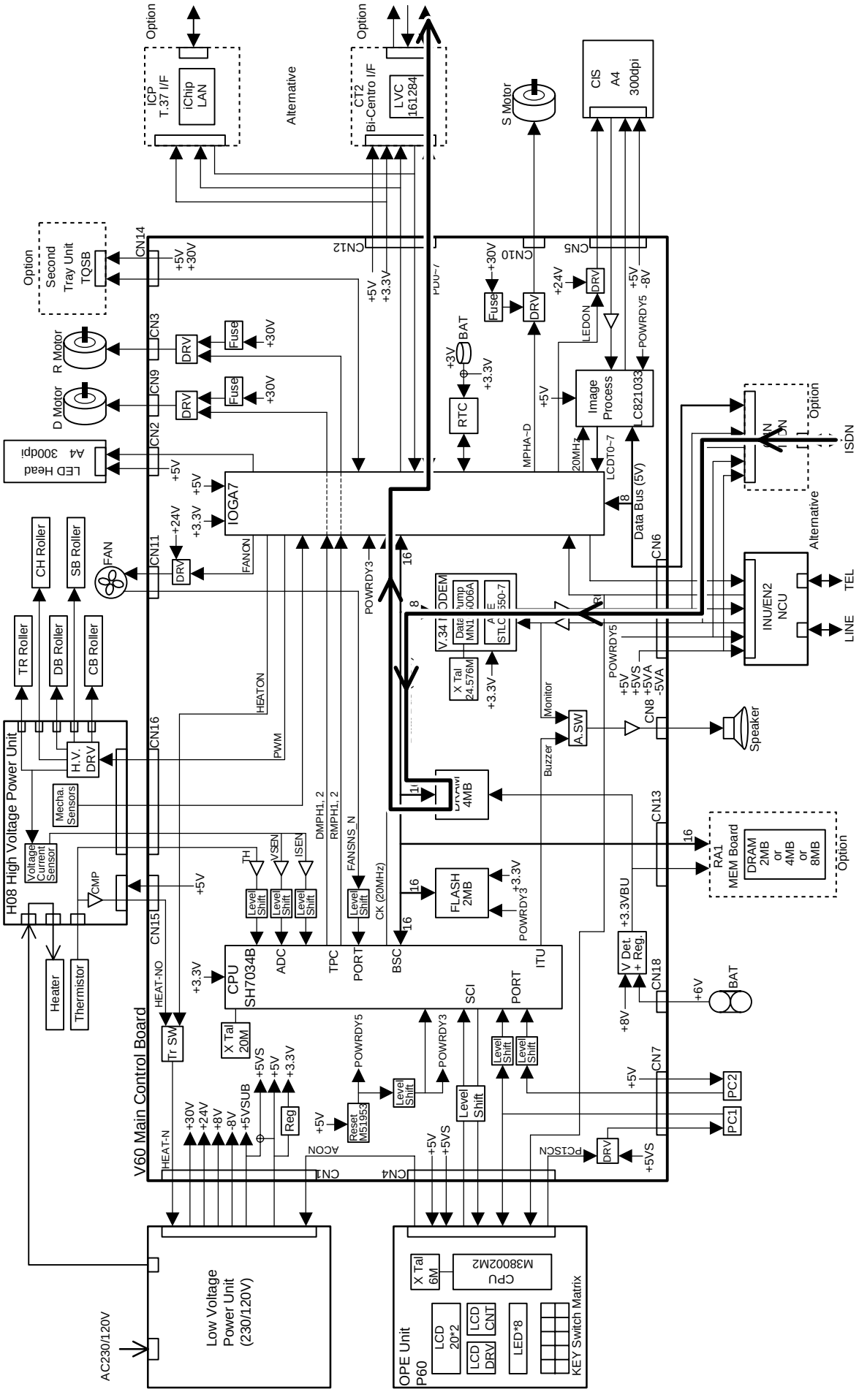


Figure 2.12 ISDN PC-FAX G3 RX Picture Signal

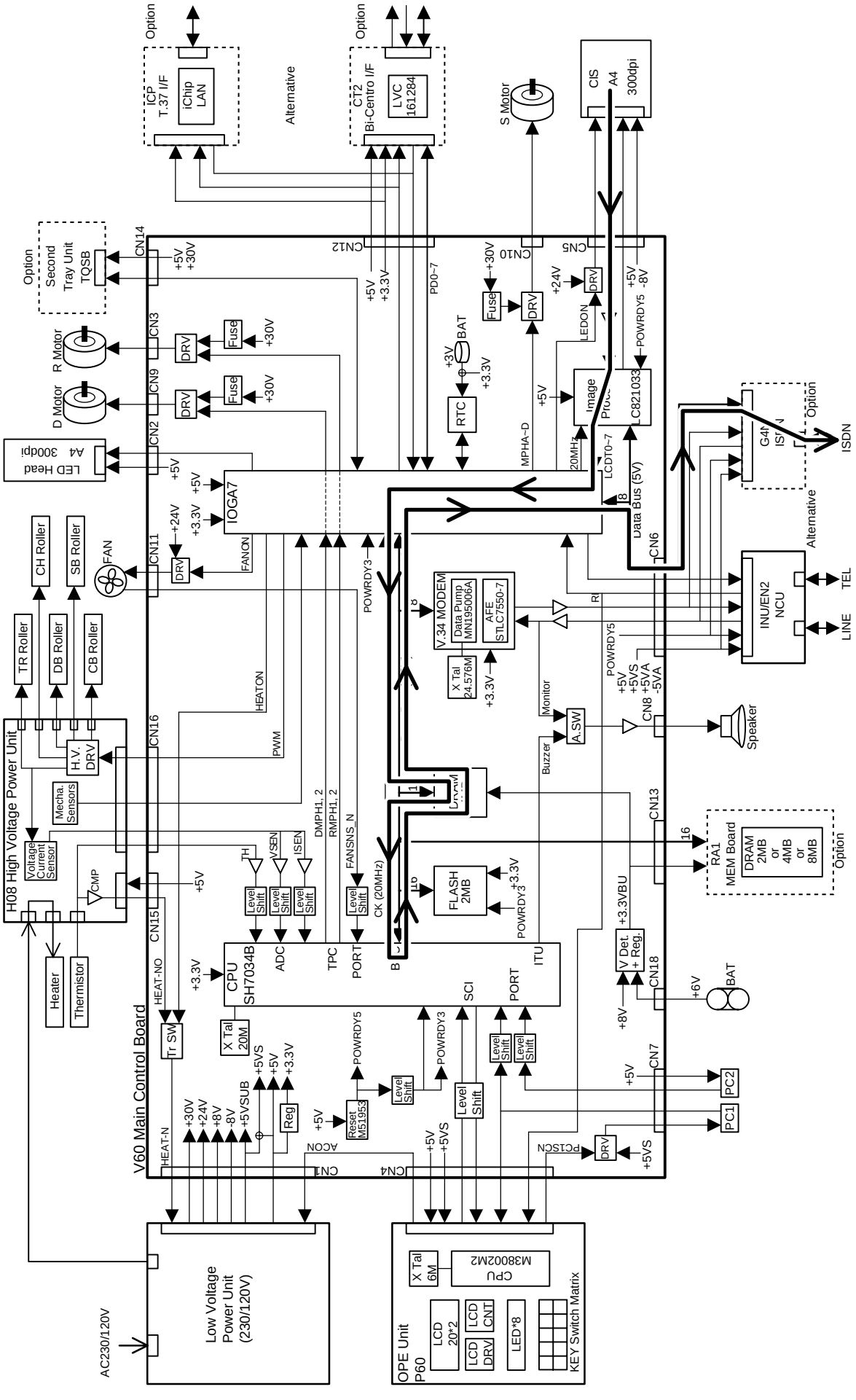


Figure 2.13 ISDN G4 TX Picture Signal

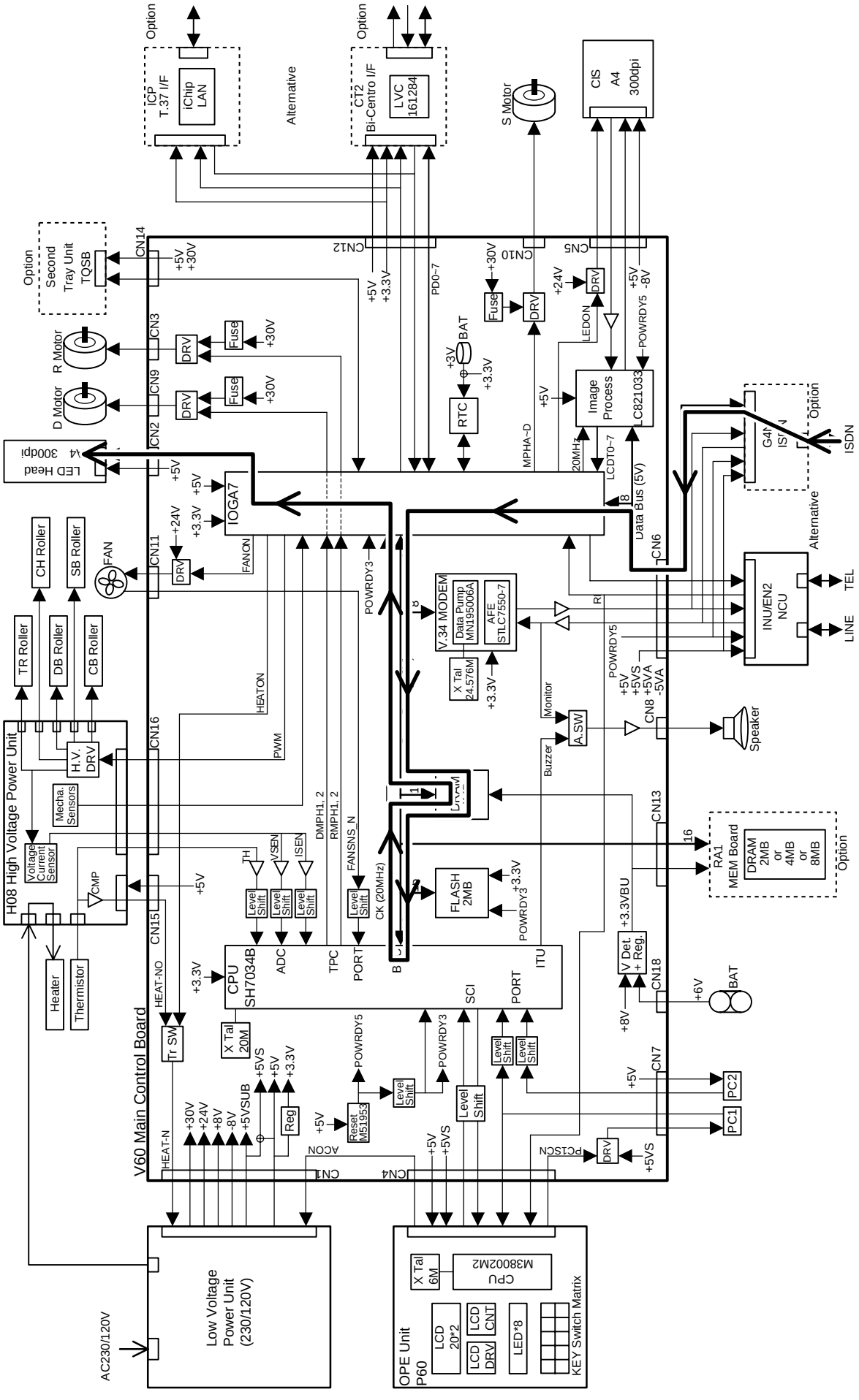


Figure 2.14 ISDN G4 RX Picture Signal

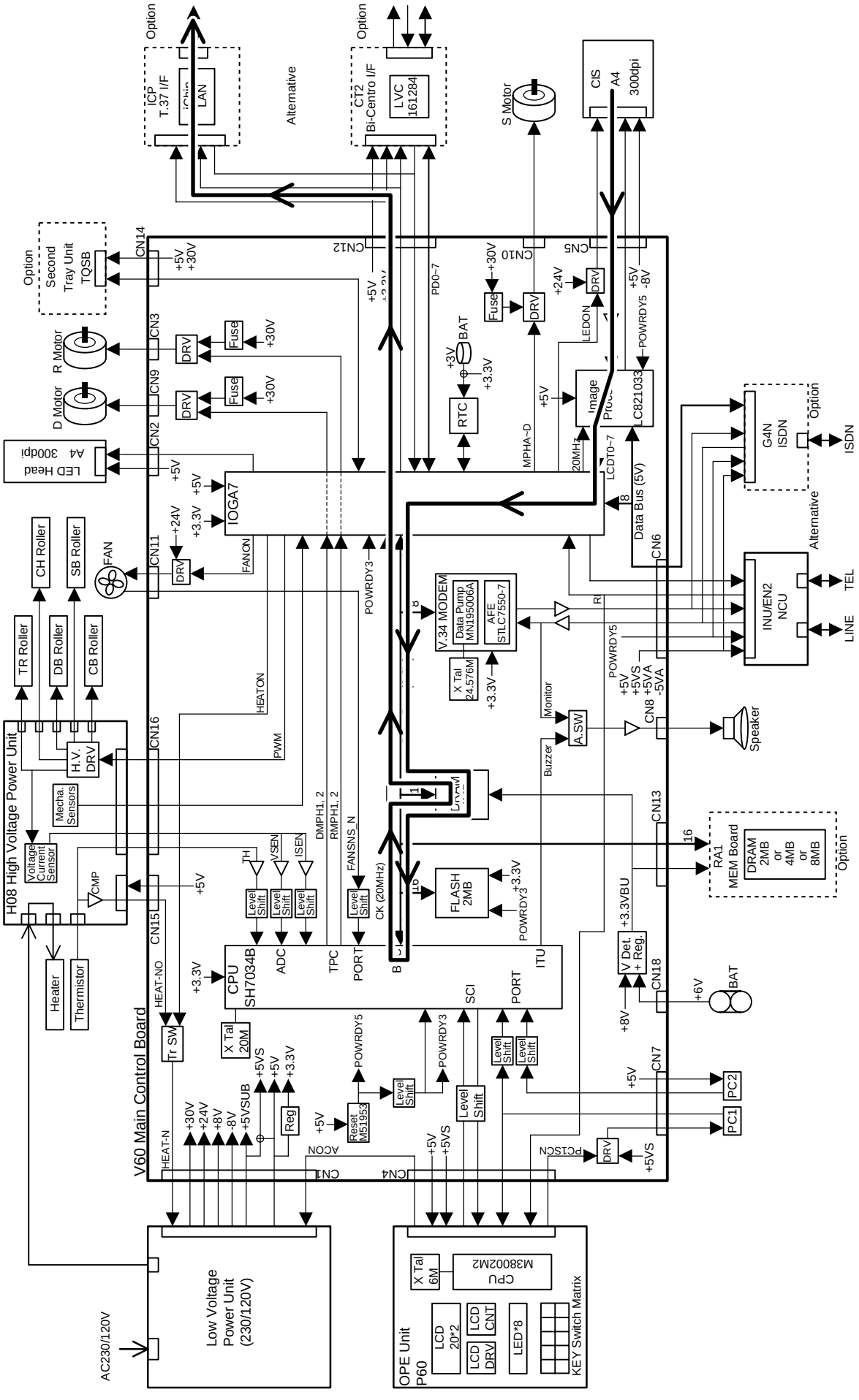


Figure 2.15 Internet FAX TX Picture Signal

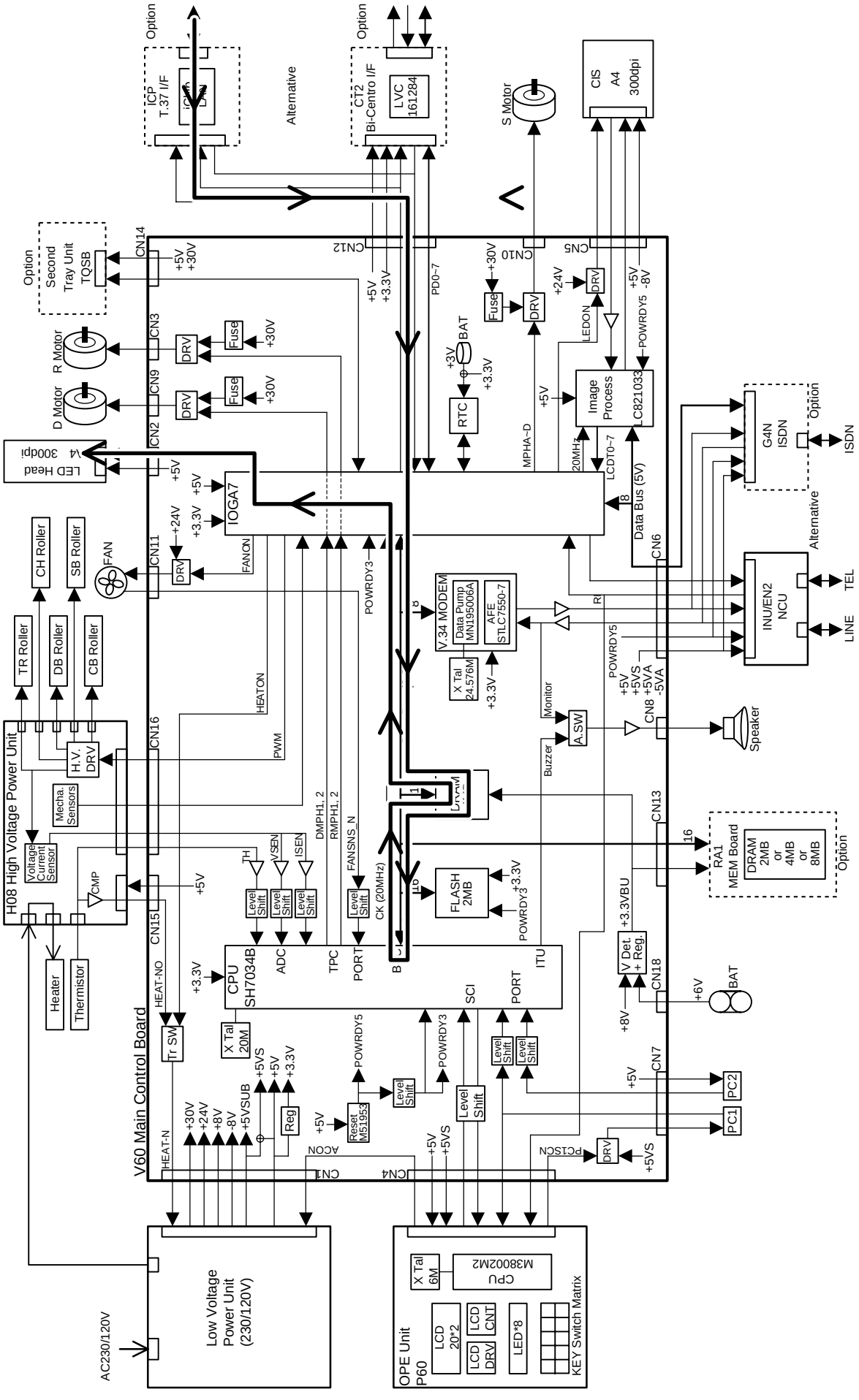


Figure 2.16 Internet FAX RX Picture Signal

3. Circuit Diagram

3.1 V60 Circuit Diagram

3.1.1 V60 Circuit Diagram (Page 1/15, 2/15)

1. Block diagram
The circuit diagram shown on page 1/15, 2/15 consists of CPU (SH7034B), IC2 (IOGA7), crystal oscillator circuit and main reset signal generator.

Figure 3.1 shows the block diagram of CPU, IOGA7 and the peripheral circuits.

1) CPU (SH7034B)

- CPU contains the following functions in addition to the basic processor:
  • DMA (Direct Memory Access) control
  • Interrupt procedure control
  • A/D converter
  • Bus state control
  • Programmable pattern control
  • 16 bit integrated timer pulse unit (ITU)
  • Timing pattern control (TPC)
  • Serial communication interface (SCI)
  • Input/output port

2) IOGA7 is newly developed LSI for scanning, printing control and I/O control.

- IOGA7 contains the following functions:
  • Scanned data DMA control
  • Strobe signals control for LED head
  • Smooting control for printing data
  • Interface of the peripheral LSIs

3) Crystal oscillator circuit
X1 is 20MHz crystal oscillator. The output wave is fed to the CPU through pin 14 and 15. CLK (20MHz) is used as the system clock.

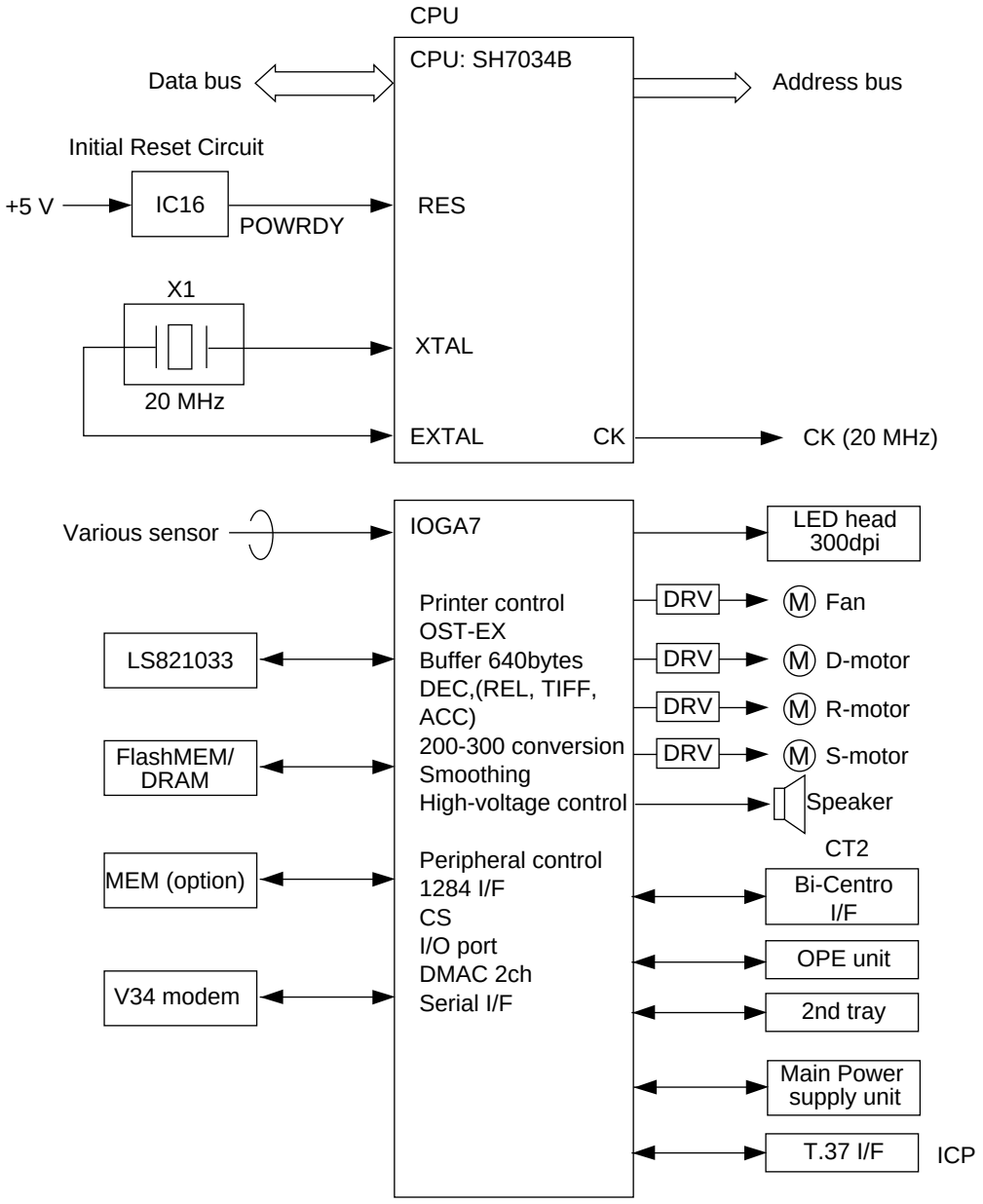


Figure 3.1 Related Signals of CPU and IOGA7

3.1.2 V60 Circuit Diagram (Page 3/15)

1. Block diagram
The circuit diagram shown on page 3/15 consists of Flash memory, DRAM, optional MEM I/F, Real time clock IC and Back up battery circuit.

Figure 3.2 shows the block diagram of Flash memory, DRAM, optional MEM I/F and Real time clock.

2. Function
1) Flash memory (FLS1)
Flash memory (electrically erasable and programmable device) is used for the main software program, which is stored in EP-ROM of the current FX-060VP. Other than the function of EP-ROM, Flash memory is also used for the user data area instead of SRAM chips.

- 2M Byte Flash memory × 1 (FLS1)
  Used for work area, report recording etc.

2) DRAM
RAM1 and RAM2: 2MB (512k words × 16 bit) × 2 chips
- Used as follows:
  Picture memory for the ECM send/receive mode.
  Picture memory for the memory transmission mode.
  Picture memory for the retransmission mode.
  Picture memory for the reception in memory.
  Editing for report printing.

3) Back-up battery circuit
The non-rechargable lithium battery supplies voltage to a real-time clock IC at AC main interruption.

4) Real-time clock IC (IC22)
IC22 is a real-time clock IC used as a timepiece to display the date and time in year, month, day, hour, minute, and second units.

5) CN13
Connector CN13 provides an interface between V60 board and RA1 (Optional MEM board).

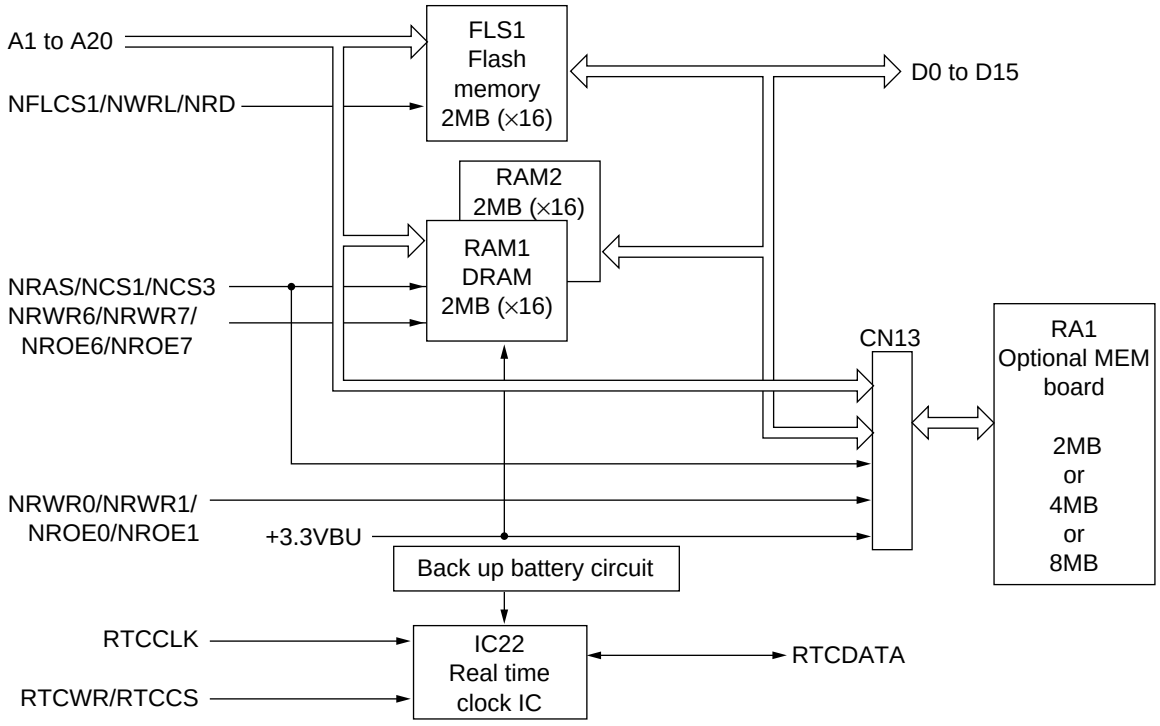


Figure 3.2 Block Diagram of DRAM, Flash memory and Real time clock IC

3.1.3 V60 Circuit Diagram (Page 4/15)

1. Block diagram
   The circuit diagram shown on page 4/15 shows the memory back up circuit.

   Figure 3.3 shows the block diagram of the memory back up circuit.

2. Function
   A rechargeable battery connected to the MCNT board externally supplies +6V to the IC inside the MCNT board. This voltage is reduced to +3.3V (+3.3VBU) to be supplied to the DRAMs and optional add-on memory (RA1) can be retained after power-off.
   When the power is turned on, +3.3VBU is supplied by IC8, and IC7 is turned off by TR19. At the same time, +8V is supplied to the external battery for recharging.

   - IC36 (Voltage detector) detects whether the input voltage is over +4V or not.
   - IC37 (Voltage regulator) generates +3.6V from the input voltage,

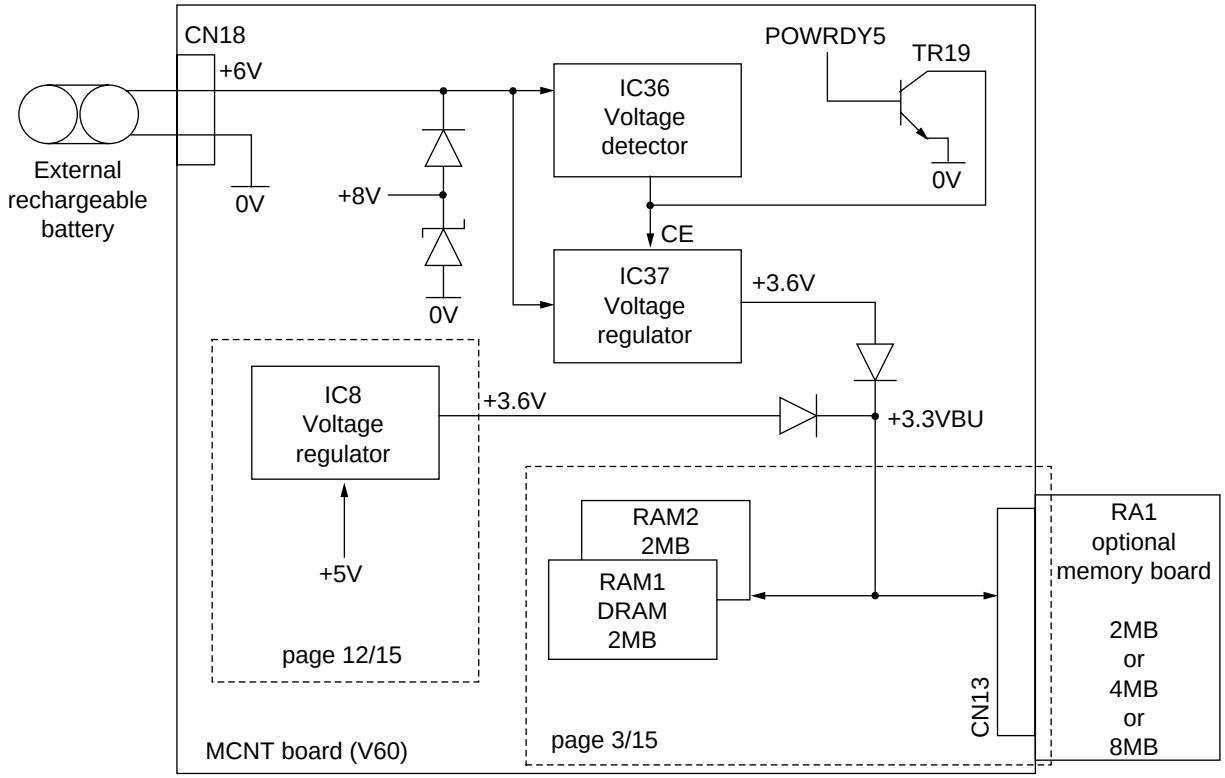


Figure 3.3 Block Diagram of the memory back up circuit

3.1.4 V60 Circuit Diagram (Page 5/15)

1. Block diagram
   The circuit diagram shown on page 5/15 consists of Modem (33.6 kbps).

   Modem consists the following functions:
   - Modulation/demodulation
     Modulation type:
     1) ITU-T Rec. V34 (33600/31200/28800/26400/24000/21600/19200/16800/14400/12000/9600/7200/4800/2400 bps) for G3 picture data.
     2) ITU-T Rec. V17 (14400/12000/9600/7200 bps) for G3 picture data.
     3) ITU-T Rec. V29 (9600/7200 bps) for G3 picture data.
     4) ITU-T Rec. V27 ter (4800/2400 bps) for G3 picture data.
     5) ITU-T Rec. V21 channel 2 (300 bps) for binary signals defined in ITU-T Rec. T.30.
   - Automatic adaptive equalizer for G3 receive data with 300 bps data excluded.
   - Generation of signal tones
   - PB tone (multi-frequency tone) generation
   - Detection of single tones
   - D/A converter for send data (TX)
   - A/D converter for receive data (RX)
   - Amplitude equalizer for RX
   - Selectable attenuation for TX
   - Automatic gain control

   Figure 3.4 shows the related signals of Modem.

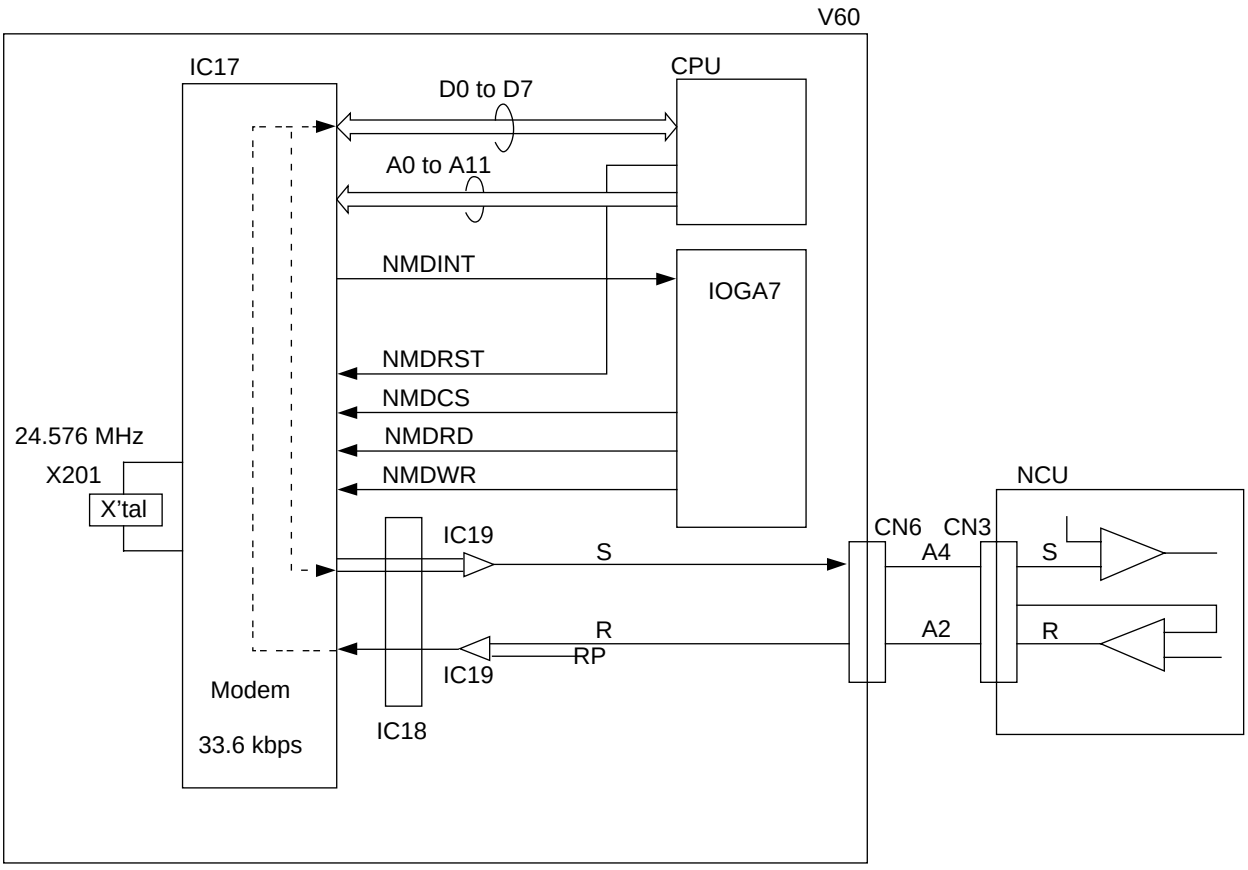


Figure 3.4 Related Signals of Modem

3.1.5 V60 Circuit Diagram (Page 6/15)

1. Block diagram
   The circuit diagram shown on page 6/15 consists of connector CN2 that provides an interface between V60 board and LED print head.

   Figure 3.5 shows the related signals and block diagram of LED print head.

2. Function
   Data of 2496 LEDs on the LED print head is loaded into the shift registers by the HCLCK signal. After the 2496 bit data is loaded in the shift registers, it is then loaded in the latch circuit by the HDLD signal. The turning -on and off of the LEDs are controlled by STB1-N to STB4-N signals.

   LED head interface signals output from CPU
   - HDATA 0 : Print data i.e., data to be printed
   - HCLCK : Transfer clock for print data
   - HDLD : Latch signal for print data
   - STB1-N to STB4-N : LED head strobe signals

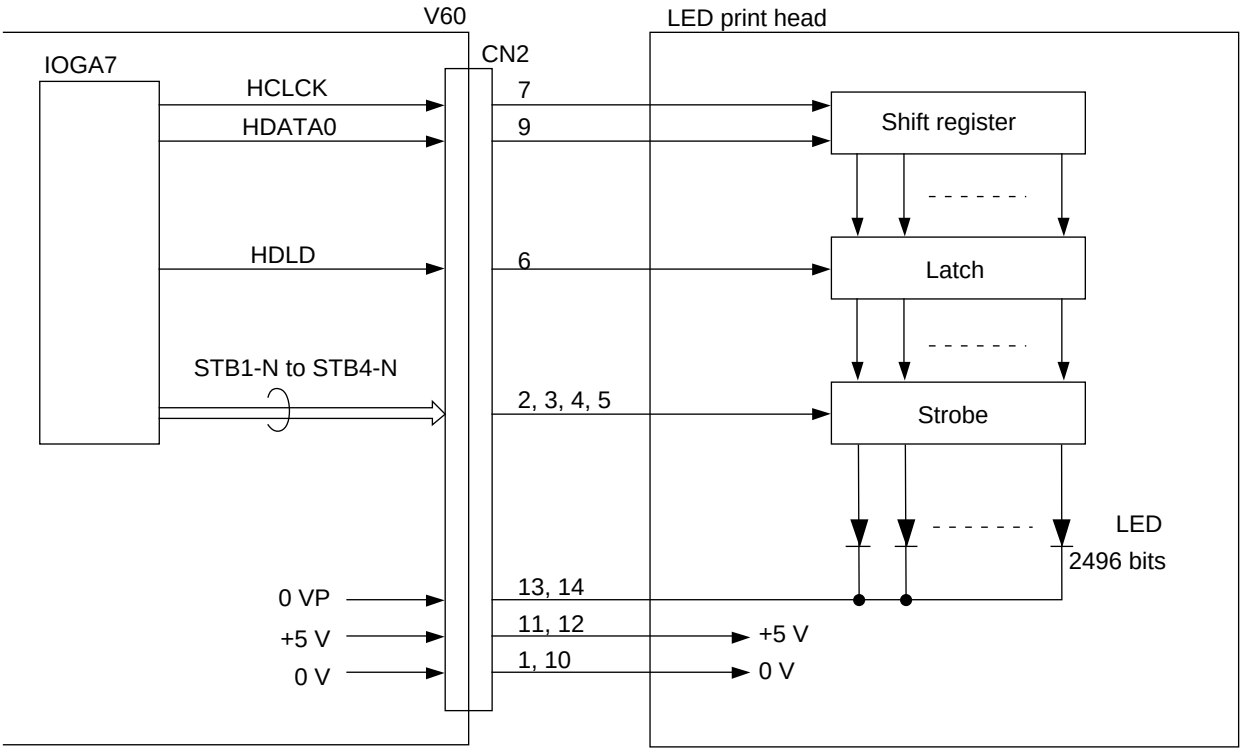


Figure 3.5 Related Signals and Block Diagram of LED Head

3. Block diagram
The circuit diagram shown on page 6/15 consists of the following connectors:
- Connector CN11 that provides an interface between V60 board and the fan motor.
- Connector CN14 that provides an interface between V60 board and the second tray (option).

Figure 3.6 shows the related signals of the fan motor.
Figure 3.7 shows an interface between V60 board and the second tray (option).

4. Function
1) Fan motor control
The fan motor is controlled by the FANON signal generated from IOGA7 under the temperature control of the heater. The operating status of the fan is supervised by the FANSNS-N signal.

2) Second tray (option)
Second tray consists of the following functions:
- Paper capacity : 500 sheets
- Paper size : A4, Letter, Legal
- Paper-size selection : Manual
- Cassette/no-cassette selection : Automatic
- Paper/no-paper selection : Automatic
- Paper route open to facsimile transceiver unit : Automatic decision

Control method:
When second tray is installed on the facsimile transceiver unit, the tray is connected to the facsimile transceiver unit by a connector. The tray controls by the command from CPU of PU (printer unit) section.

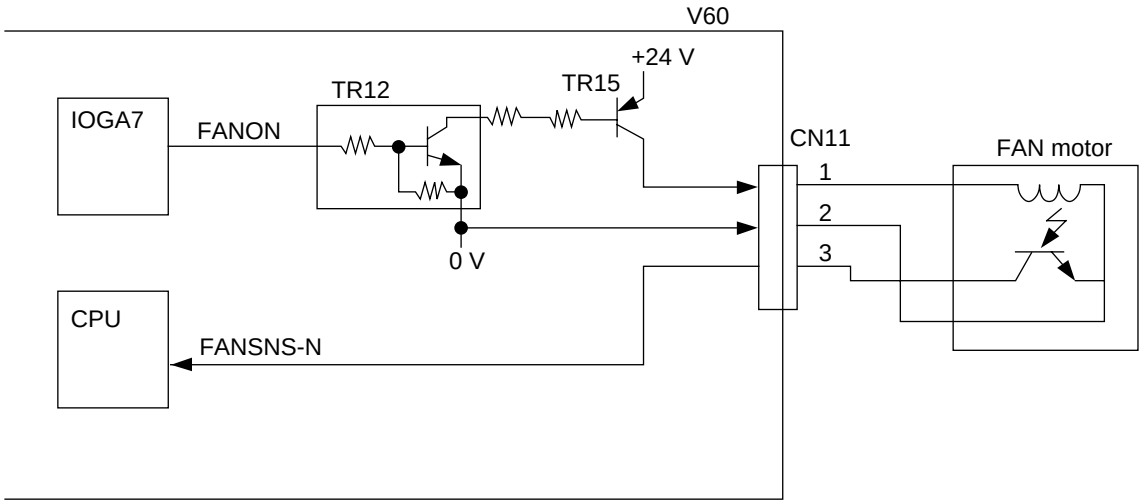


Figure 3.6 Related Signals of Fan Motor

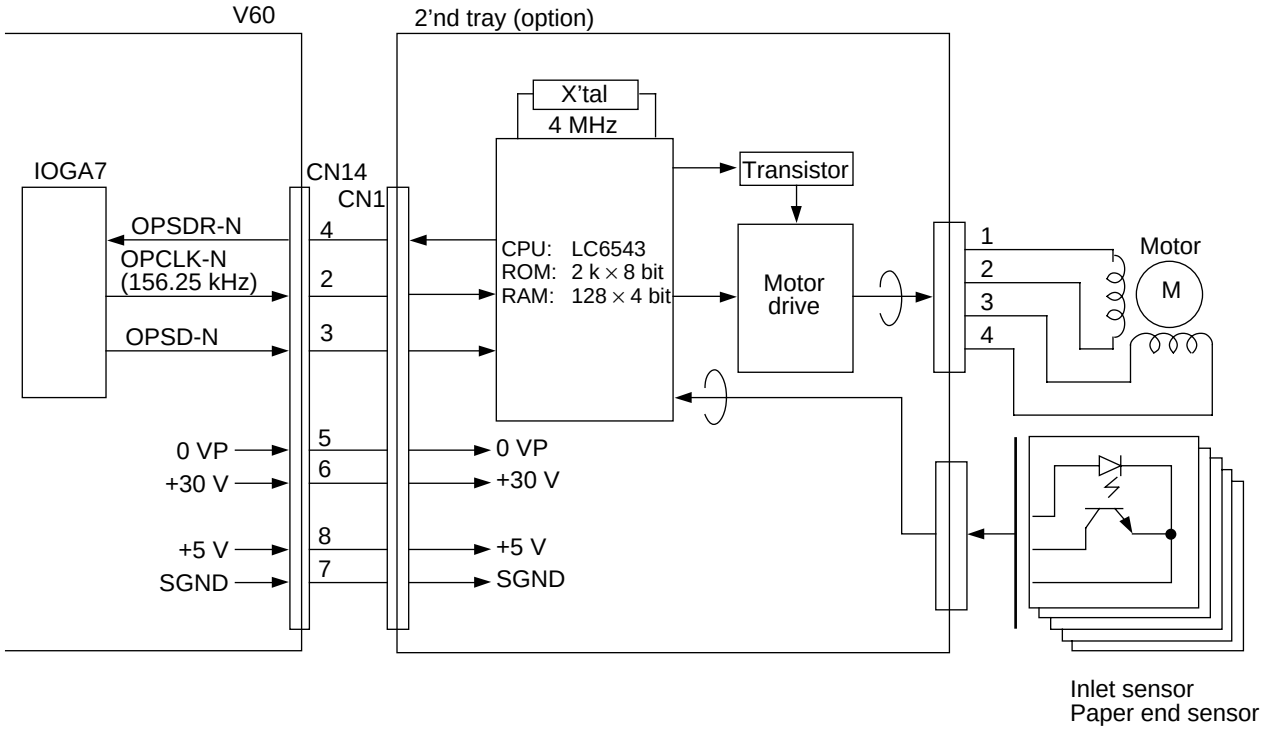


Figure 3.7 Interface between V60 Board and 2'nd Tray

3.1.6 V60 Circuit Diagram (Page 7/15, 8/15)

1. Block diagram

   The circuit diagram shown on page 7/15, 8/15 consists of the following connectors:
   - Connector CN6 that provides an interface between V60 board and NCU board.
   - Connector CN7 that provides an interface between V60 board and external electro-mechanical devices (PC1 and PC2).
   - Connector CN4 that provides an interface between V60 board and OPE (P60) unit.

   Figure 3.8 shows an interface between V60 board and NCU board.
   Figure 3.9 shows an interface between V60 board and OPE unit.
   Figure 3.10 shows the related signals of PC1 and PC2.

2. Function

   1) External status supervising interface (PC1/PC2)

      External status is detected by the photocouplers (PC1/PC2) in the mechanism and the signal is output to the input port of CPU via this interface circuit.
      - PC1: Presence of document on hopper.
        When sub-power supply is applied to the fax machine, this signal is output to OPE unit which will control the main-power supply.
      - PC2: Presense of document at scanning position.

3. Others

   NCU interface signal
   - CML : Line seizure control signal
   - DP : Dial pulse control signal
   - SR : Control signal for connection between LINE and TEL terminals
   - MUTE : Control signal for pulse dial improvement and bell shunt replay
   - PP : Relay control signal for special service code detection at parallel pickup or remote reception
   - PBXE : Control signal for connecting one of LINE terminal to the PBXE terminal
   - OH2 : Detection of off-hook of terminal connected to TEL-1 or TEL-2
   - OH1 : Output upon circuit current detection after fax line seizure
   - RP : Receiving sensistivity determination terminal
   - RI : Ringing detection signal
   - S : Send signal (picture data/protocol/tonal signals/PB tone etc.)
   - R : Received signal (picture data/protocol/tonal signals etc.)

   OPE interface signals
   - TXDOPE : This signal transmits sequencially the contents of each data of TXD (LED on/off information, etc.) to OPE in serial data from CPU.
   - RXDOPE : This signal transmits sequencially the contents of each data of RXD (key code information, etc.) to CPU in serial data from OPE.
   - OPECHK : Use to monitor the operation of the OPE unit.
   - OPERST : Reset signal for OPE unit
   - WAKEUP-N : Wakeup signal
   - PSMODE : Power Save Mode off signal from OPE.
   - MP/OFF : Main Power On/Off signal to Main Power Supply Unit.
   - MPREQ : Main Power off signal from CPU.

   G4N interface signals
   Refer to section 3.9.

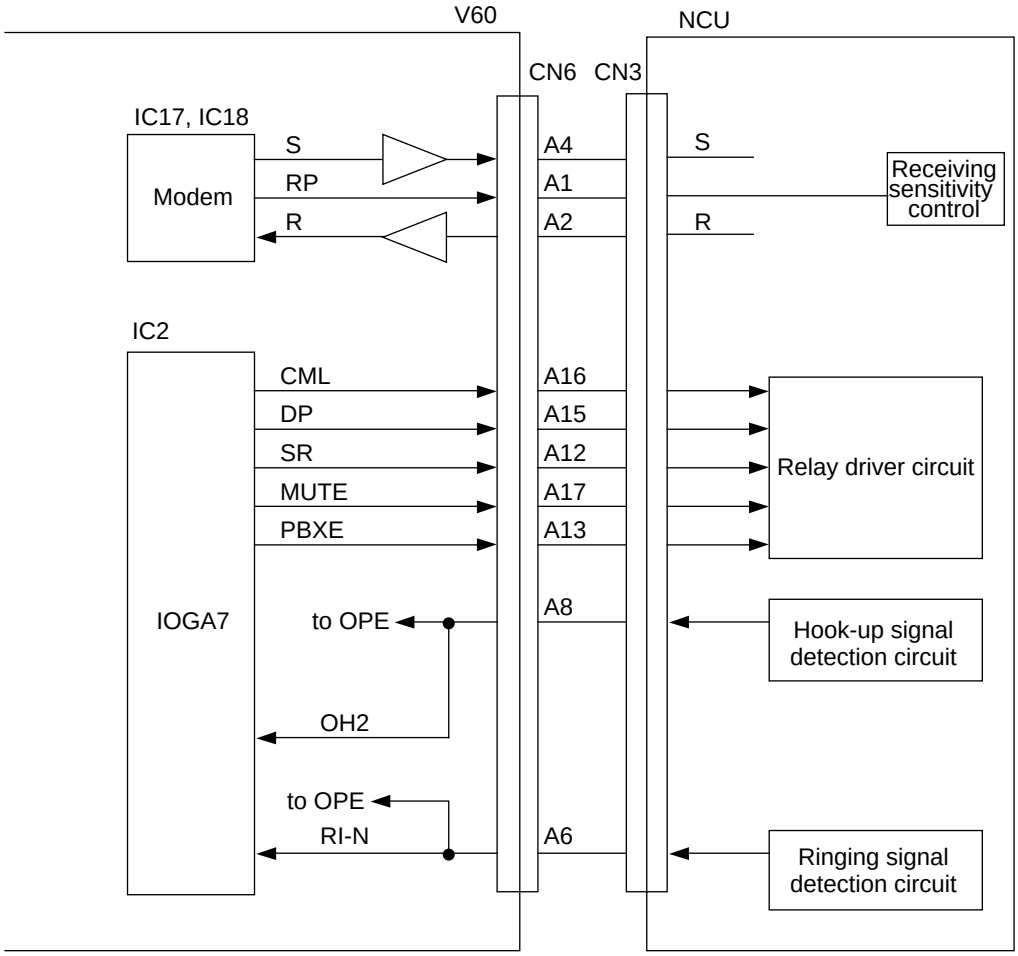


Figure 3.8 Interface between V60 Board and NCU Board

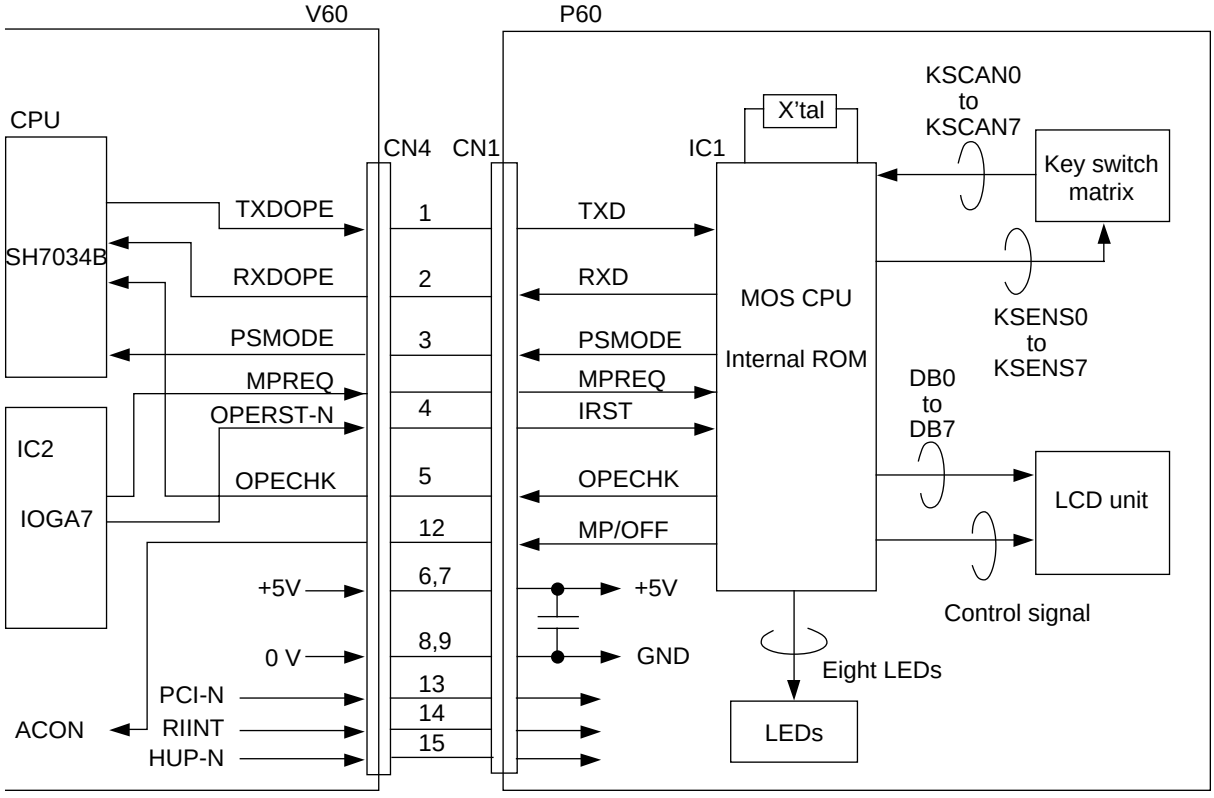


Figure 3.9 Interface between V60 Board and P60 Board (operation unit)

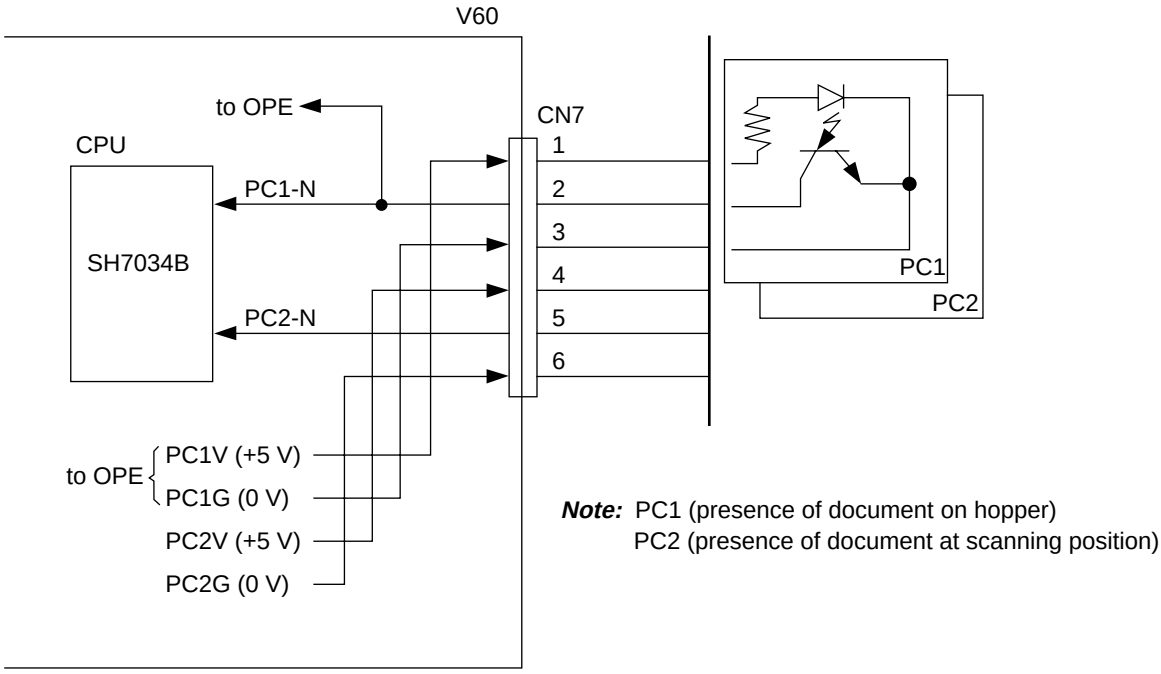


Figure 3.10 Related Signals of PC1/PC2

3.1.7 V60 Circuit Diagram (Page 9/15)

1. Block diagram

   The circuit diagram shown on page 9/15 consists of the following functions and connectors:
   - IC1 (Drum motor driver)
   - IC4 (Resist motor driver)
   - Connector CN3 that provides an interface between V60 board and the resist motor.
   - Connector CN9 that provides an interface between V60 board and the drum motor.

   Figure 3.11 shows the related signals of the drum motor and resist motor.

2. Function

   1) Drum motor control

      The drum motor is driven by the motor driver IC1. It is two-phase excited and bipolar-driven according to the DMPH1O, DMPH2O, NDMON1 and DMON2-N signals that are generated from the IOGA7. DMPH1I and DMPH2I generated by CPU are fed to IOGA7. IOGA7 performs the level shift of DMPH1I, DMPH2I and outputs as DMPH1O, DMPH2O. This drum motor rotates the image drum.

   2) Resist motor control

      The resist motor is driven by the motor driver IC4. It is two-phase excited and bipolar-driven according to the RMPH1O, RMPH2O and NRMON1 signals that are generated from the IOGA7. RMPH1I and RMPH2I generated by CPU are fed to IOGA7. IOGA7 performs the level shift of RMPH1I, RMPH2I and outputs as RMPH1O, RMPH2O. This resist motor rotates the hopping (paper hopping) roller and the resist (paper feed) roller.

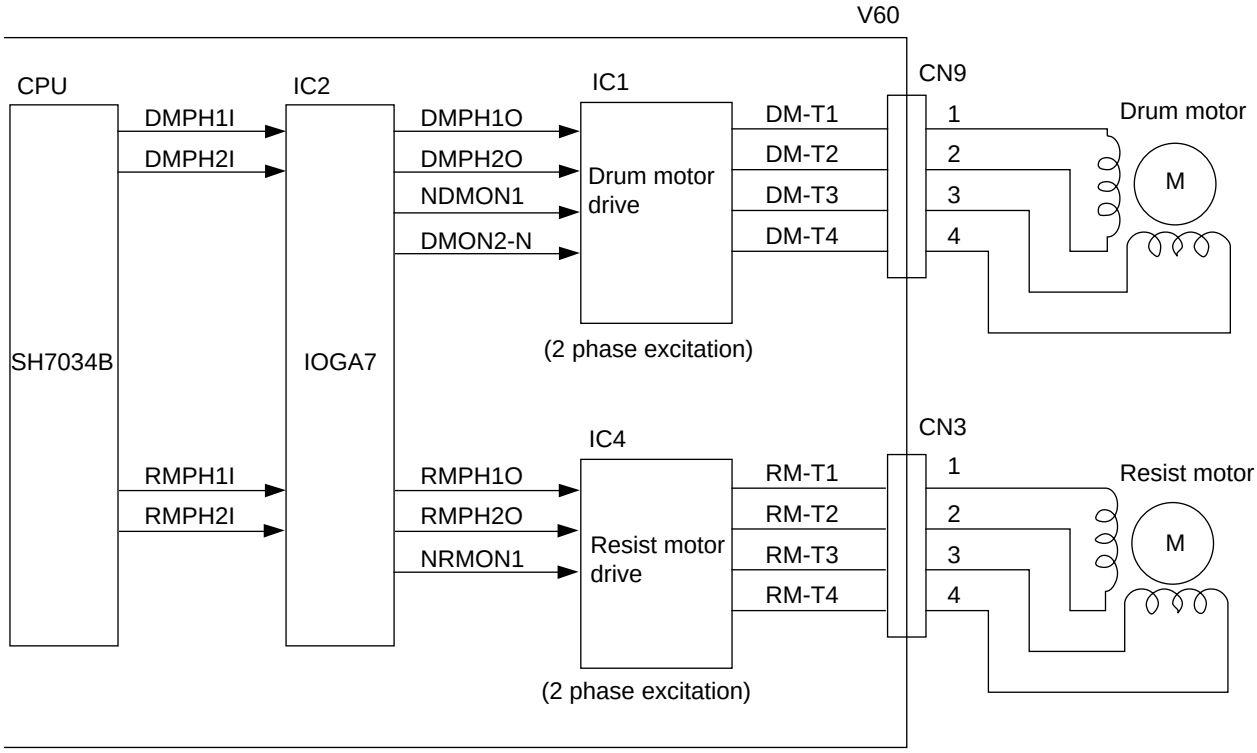


Figure 3.11 Related Signals of Drum/Resist Motor

3.1.8 V60 Circuit Diagram (Page 10/15)

1. Block diagram
   The circuit diagram shown on page 10/15 consists of the following functions and connectors:
   - IC3 (Send motor drive)
   - Connector CN10 that provides an interface between V60 board and the send motor.

   Figure 3.12 shows the related signals of the send motor.

2. Function
   1) Send motor rotaion and chopper control
      Send motor drive signals are generated by the IC2 (IOGA7) and output to send motor via IC3 (motor drive IC) of this circuit.

      Note: The built-in motor control circuit of IC2 (IOGA7) consists of the following blocks:
      - Setting of the excitation operation
      - Setting of the chopping operation
      - Setting of the motor excitation method (1-2/2-1 phase excitation)

      a) Send motor rotaion control
      There are several cases of the rotation operation:
      Forward rotation for feeding documents.
      - Case 1: Feeding document from hopper to the position where one line data is read.
      - Case 2: Feeding document while reading.
      - Case 3: Feeding document after a page has been read.

      b) Send motor chopper control
      The purpose of chopper control is to reduce the current to the motor by setting the phase signal on and off intermittently when a time lapse exceeding a specific time occurs without a phase update.

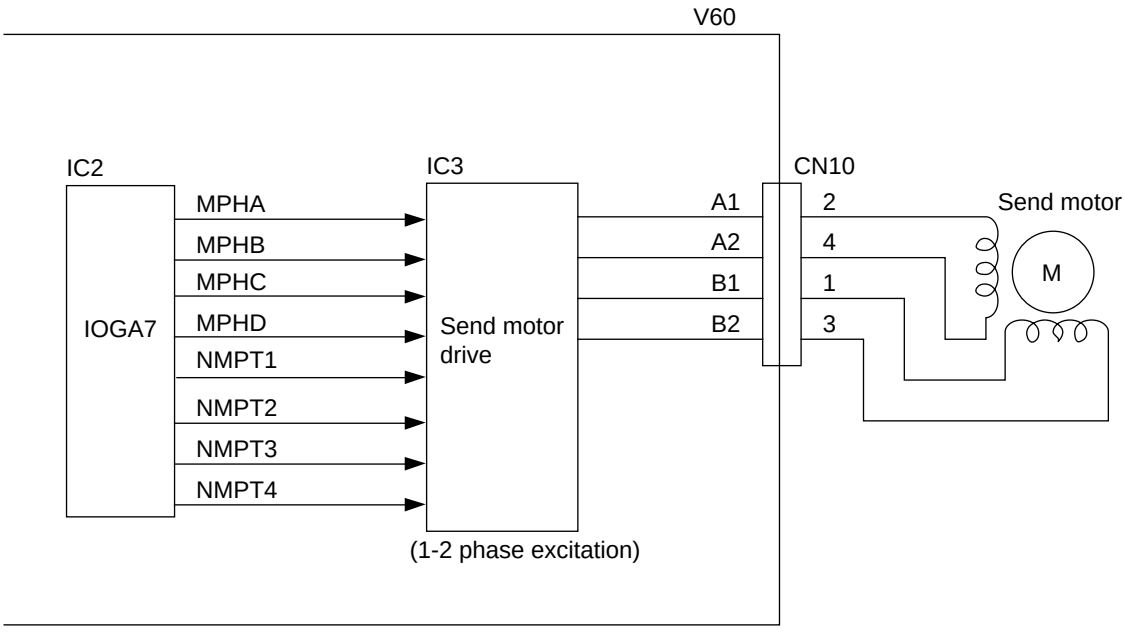


Figure 3.12 Related Signals of Send Motor

3.1.9 V60 Circuit Diagram (Page 11/15)

1. Block diagram
   The circuit diagram shown on page 11/15 consists of the following connector:
   - Connector CN12 that provides an interface between V60 board and CT2 (PC I/F) board or ICP (LAN I/F) board. CT2 board and ICP board are alternative.

   Figure 3.13 shows the interface between V60 and CT2 or ICP

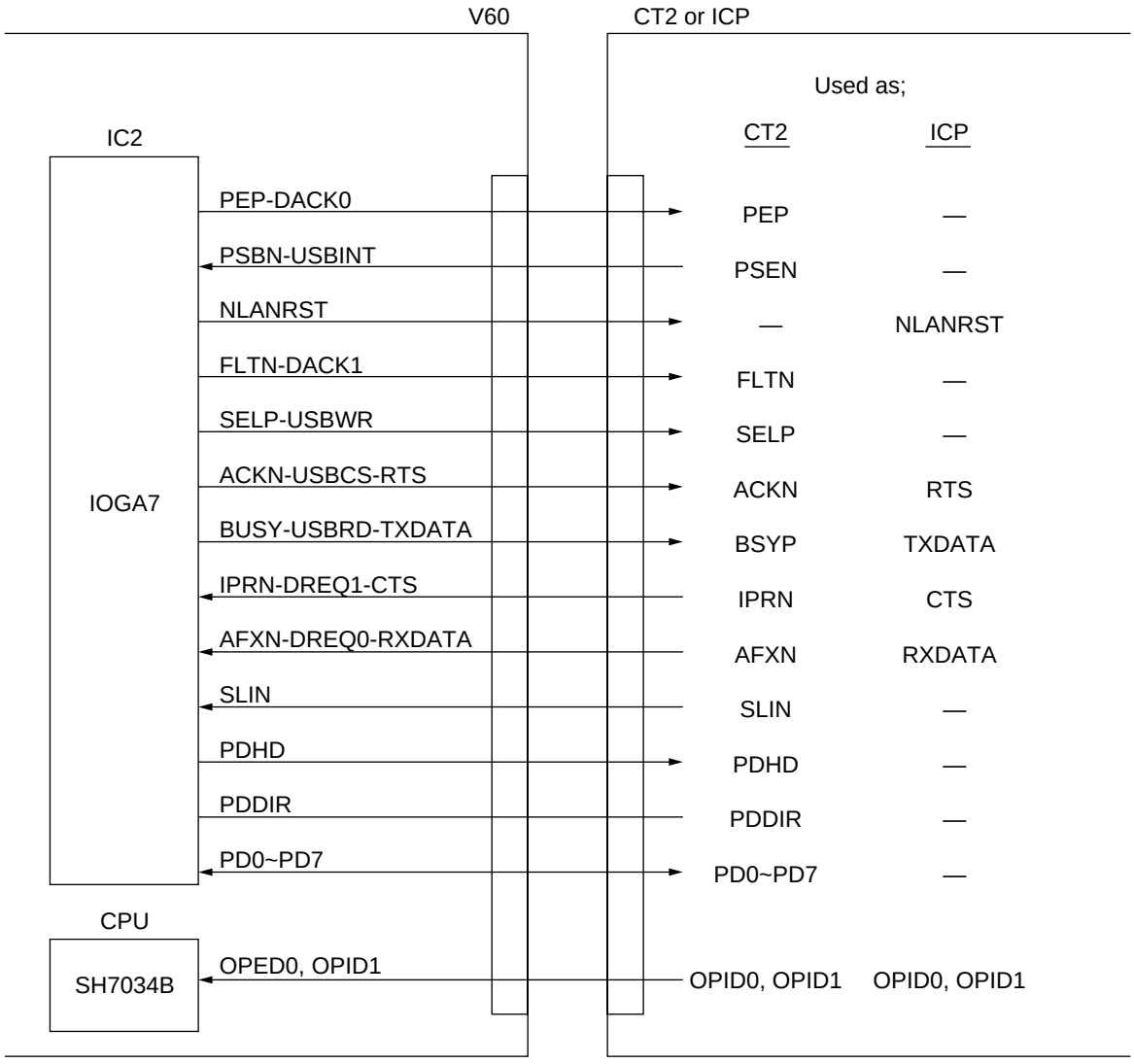


Figure 3.13 Interface between V60 Board and CT2 or ICP

3.1.10 V60 Circuit Diagram (Page 12/15)

1. Block diagram
   The circuit diagram shown on page 12/15 consists of the following connector:
   - Connector CN1 that provides an interface between V60 board and main power supply unit.
   - Connector CN15, CN16 that provide an interface between V60 board and high voltage power unit (H08).

2. Function
   1) Sensors and switch control
      Six types of sensors are used in the printer as listed below. All of their output enter IOGA7 ports for referring to and processing by the CPU.
      Figure 3.14 shows sensors and switch control.

      - Inlet sensor 1 and 2
      - Write sensor (To detect the paper top position for printing)
      - Outlet sensor
      - Paper end sensor
      - Toner end sensor
      - Cover status switch

      The functions of various sensors are described in the following table.

Sensor Type	Sensor Name	Function
PSIN-N PSIN2-N	Inlet sensor Inlet sensor 2	This photosensor is positioned before the resist roller to detect whether the paper has entered into the printer section.
WRSNS-N	Write sensor	Detects the arrival of paper at designated position on the paper transport route inside the printer in order to turn on the light of the LED head. 0: Paper exists, 1: Paper does not exist
PSOUT-N	Outlet sensor	Located at the exit of the printer to supervise the paper exit operation. 0: Paper exists, 1: Paper does not exist
PAPER-N	Paper sensor	Detects the presence of paper in the paper cassette. 0: Paper exists, 1: Paper does not exist
TNRSNS-N	Toner sensor	Detects the remaining toner in the toner cartrige. "The length of time of low-toner state within fixed time interval" detects a low-toner state.
CVOPN-N	Cover open sensor	Detects whether the cover of the printer section is open or not. 0: Cover is open, 1: Cover is close

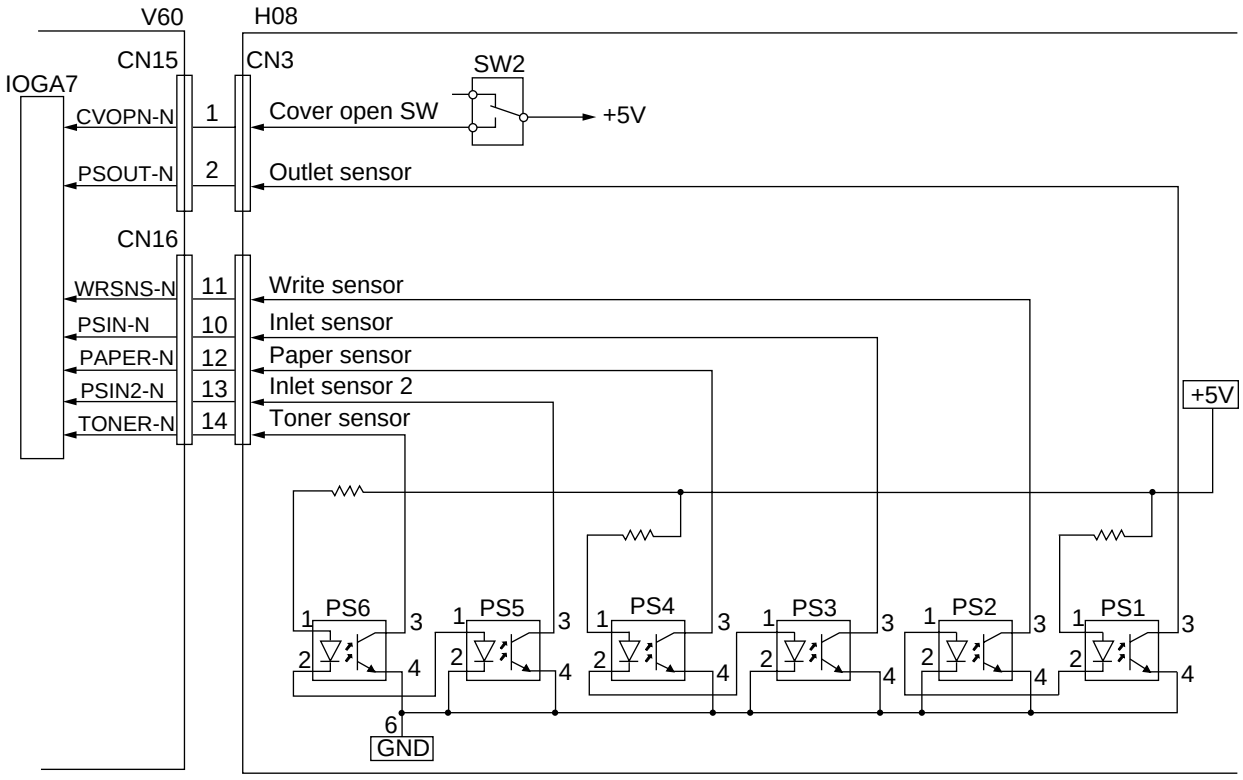


Figure 3.14 Sensors and Switch Control

2) Fuser unit temperature control
The heater in the fuser unit is controlled by the thermister, CPU to keep the heater roller surface within a prescribed temperature range. The CPU supervises the status of the port THCHK periodically, turning HEATON signal on and off according to CPU of THCHK (A/D converter input section) status to exercise temperature control.
At power on time, the CPU switches the output signal THON(between high and low states) to check for a blown or shorted thermister according to the status of the THCHK signal.
A built-in thermostat in the fuser unit prevents the heater from being overheated in event of failures in the thermister, or temperature control circuit, etc.

Figure 3.15 shows the fuser unit temperature control.

Note: Heater control
Temperature of the heater at the time of printing is 150 ˚C to 180 ˚C. This temperature is maintained by controlling the on and off operation of heater according to the input of the thermister converted into analogue-digital (A/D) values by the CPU.

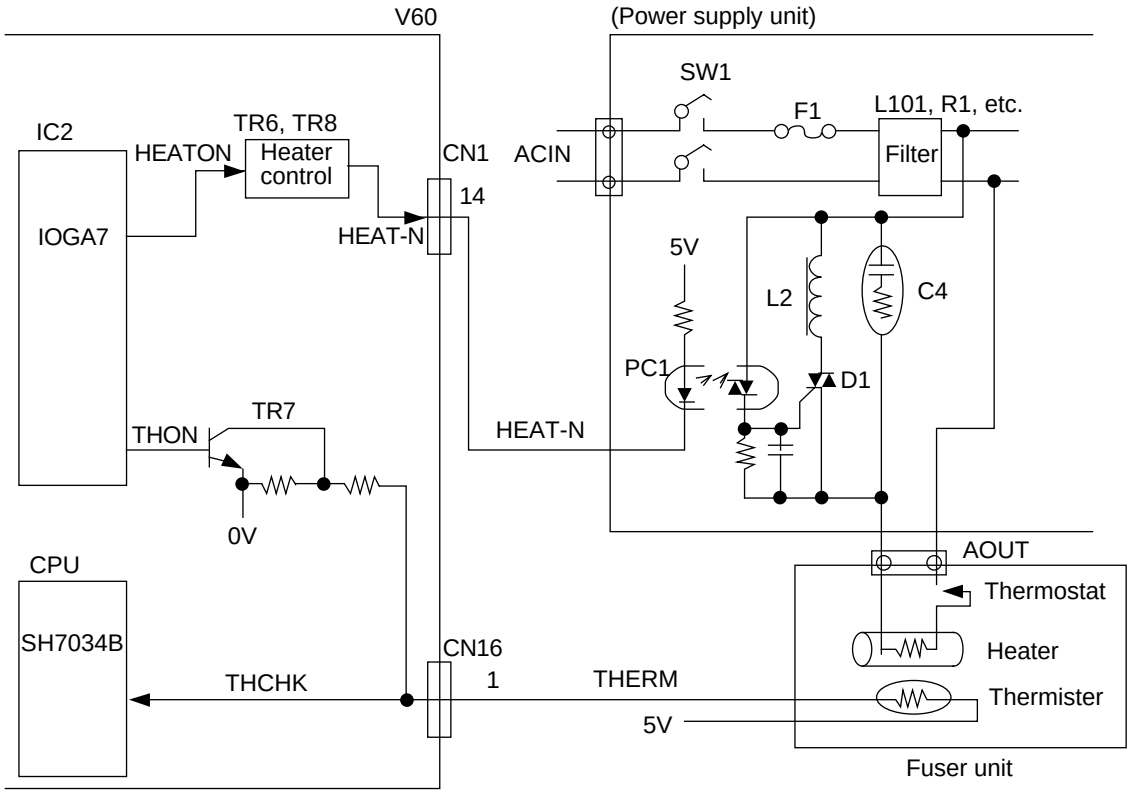


Figure 3.15 Fuser Unit Temperature Control

3) High-voltage and medium-voltage control

High voltages are activated by IOGA7 and generated by the high-voltage circuit inside the power supply unit. The CH (charge) voltage of about -1.35 kV is used for the charge roller. The TR1/TR2 (transfer) voltage of about +3.5 kV/-0.75 kV is used for the transfer roller.

Medium voltages are activated by IOGA7 and generated by the medium-voltage circuit inside the power supply unit. The SB1/SB2 (toner supply) voltage of about +0 V/-450 V is used for the toner supply roller. The DB1/DB2 (developping) voltage of about +300 V/-300 V is used for the developing roller. The CB (cleaning) voltage of about +400V is used for the cleaning roller.

Figure 3.16 shows high/medium voltages control.

* Signals used to control the high/medium-voltages are listed below.

Signal Name	Description
CHPWM	P.W.M : CH is output.
DB1ENB	"1": + ive polarity voltage of DB1/SB1 is output.
DB2ENB	"1": - ive polarity voltage of DB2/SB2/CB is output.
TR1PWM	P.W.M : TR1 is output.
TR2PWM	P.W.M : TR2 is output.
DBPWM	P.W.M : DB/SB/CB is output.

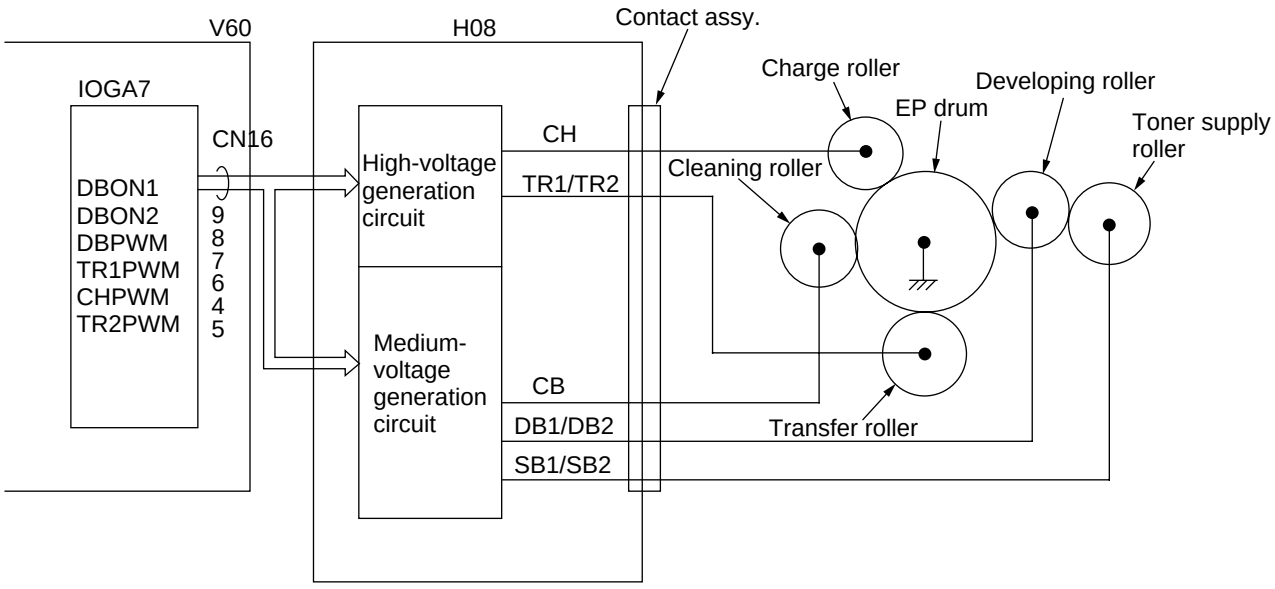


Figure 3.16 High/Medium Voltage Control

3.1.11 V60 Circuit Diagram (Page 13/15, 14/15)

1. Block diagram
   The circuit diagram shown on page 13/15, 14/15 consist of the following function:
   - IC13 (LC821033 : image processing LSI)
   - Connector CN5 that provides an interface between V60 board and CIS (contact image sensor).

   Figure 3.17 shows the related block diagram of LC821033 and CIS I/F.

2. Function
   One-line picture data is read in the sequence from the scanning unit (CIS) as SIG signal (analog data) to IC3. Here, the picture data undergoes various kind of picture processings.

   IC13 (LC821033) contains the following functions;
   - CIS (contact image sensor) driver
   - Line buffer control

   CIS interface signal output from IC13 (LC821033)
   - LEDON : LED on/off control signal
   - SCLK : Scanning sensor drive clock (1.25MHz)
   - MISP : Scanning synchronous signal (2.5 msec)

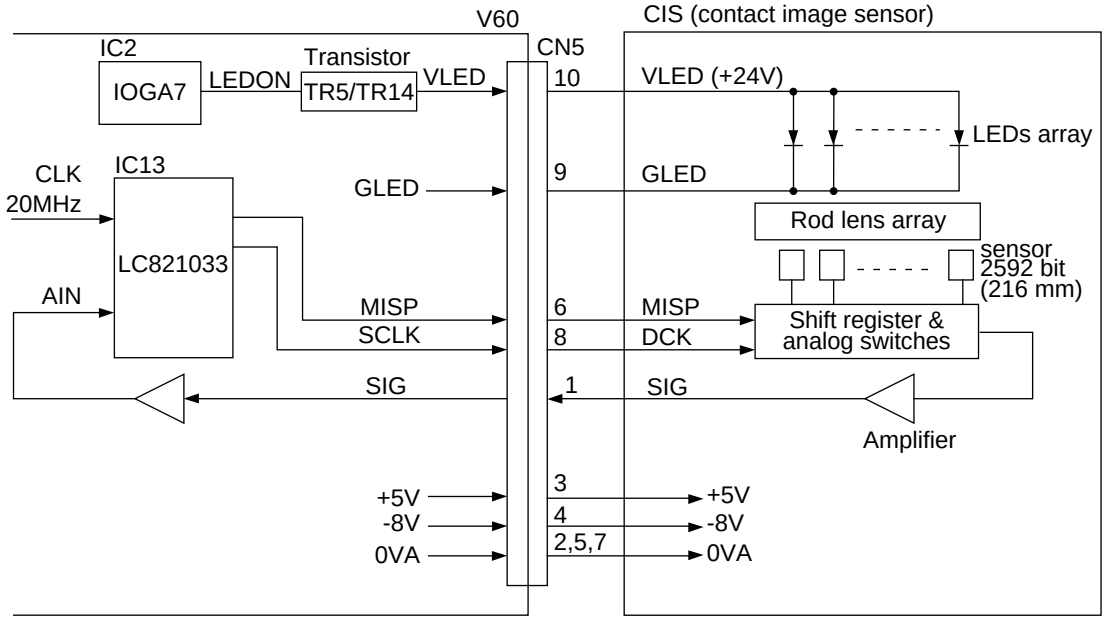


Figure 3.17 Related Block Diagram of LC821033 and CIS I/F

3.1.12 V60 Circuit Diagram (Page 15/15)

1. Block diagram
   The audio monitor circuit on page 15/15 that consists of IC9 (analog switch IC) and IC15 (amplifier) generates the following audio monitor.
   - Line monitoring
   - Buzzer signals

   Figure 3.18 shows the block diagram of audio monitor circuit.

2. Function
   1) Line monitoring
      Send and receive signals are input from the transformer on the NCU board to this circuit as RM signal and the signal power is input to the IC13. The IC9 adjusts the monitor volume by MONC0, MONC1 and MONC2 signal under the control of IOGA7. Output (high and low) from IC9 passes through the amplifier and fed to the speaker as a SP signal.

      • MONC0/MONC1/MONC2 signal : Volume control signal.

      Note: In case of transmission mode, the monitor will be available during dialing, but the monitor will be switched off automatically after the elapse of specified time (about 5 sec).

   2) Buzzer control
      Alarm and other signals (key touch etc.) are input from CPU to this circuit as BZ signal. The various buzzer signals are sounded under the control of CPU.

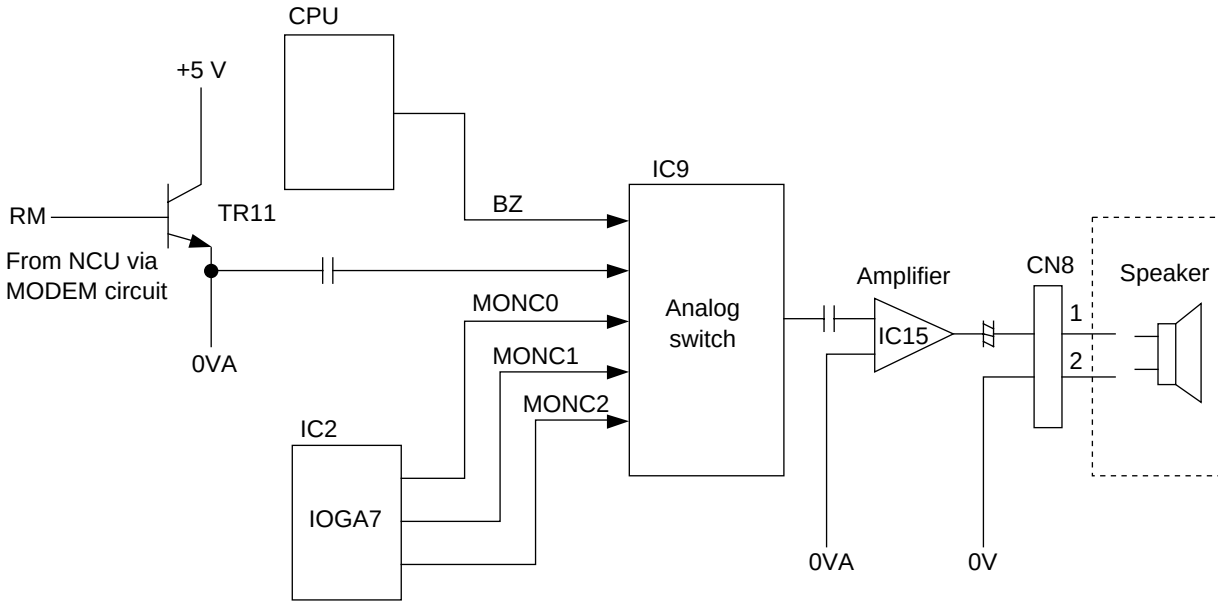


Figure 3.18 Block Diagram of Audio Monitor Circuit

3.2 OPE (P60) Circuit Diagram

1. Block diagram
   Figure 3.19 shows a block diagram of OPE (P60).

   The P60 (operation unit) circuit consists of the following blocks:

   1) IC1 (one chip MOS-CPU)
      - Output ports
        Setting LEDs on and off: 8 ports
        Specifies the row during key switch matrix scanning: 8 ports
      - Input ports
        Detect the column whose key is pressed: 8 ports

   2) Key switch matrix (8 rows × 8 columns)

   3) LEDs (8 LEDs)

   4) LCD unit

2. Key switch scanning
   Output ports (KSCAN0 to KSCAN7 signal) corresponding to 8 rows of key matrix are scanned sequentially by the software. In the case 1 is any of output from KSCAN0 to KSCAN7 signal which corresponds to the row 8 in the block diagram, the software reads input port, KSENS0 to KSENS7, and determines which in the row 8 is pressed.

3. LED drives and LEDs
   Eight LEDs (ALARM, PHOTO, LIGHT, etc.) on the control panel are driven by output of IC1 via resistors R501, R508-R514 respectively. An LED lights on when a port output is 1.

4. In case sub-power supply is applied to the fax machine: when PC1-N, HUP-N or RIINT signal is input to OPE unit, OPE unit controls the main power supply (TLHV board) by outputting the MP/OFF (ACON) signal.

   - PC1-N : Presence of document on hopper
   - HUP-N : OFF-Hook detection for TEL 1 and TEL 2 terminal
   - RIIN : Ringing detection signal

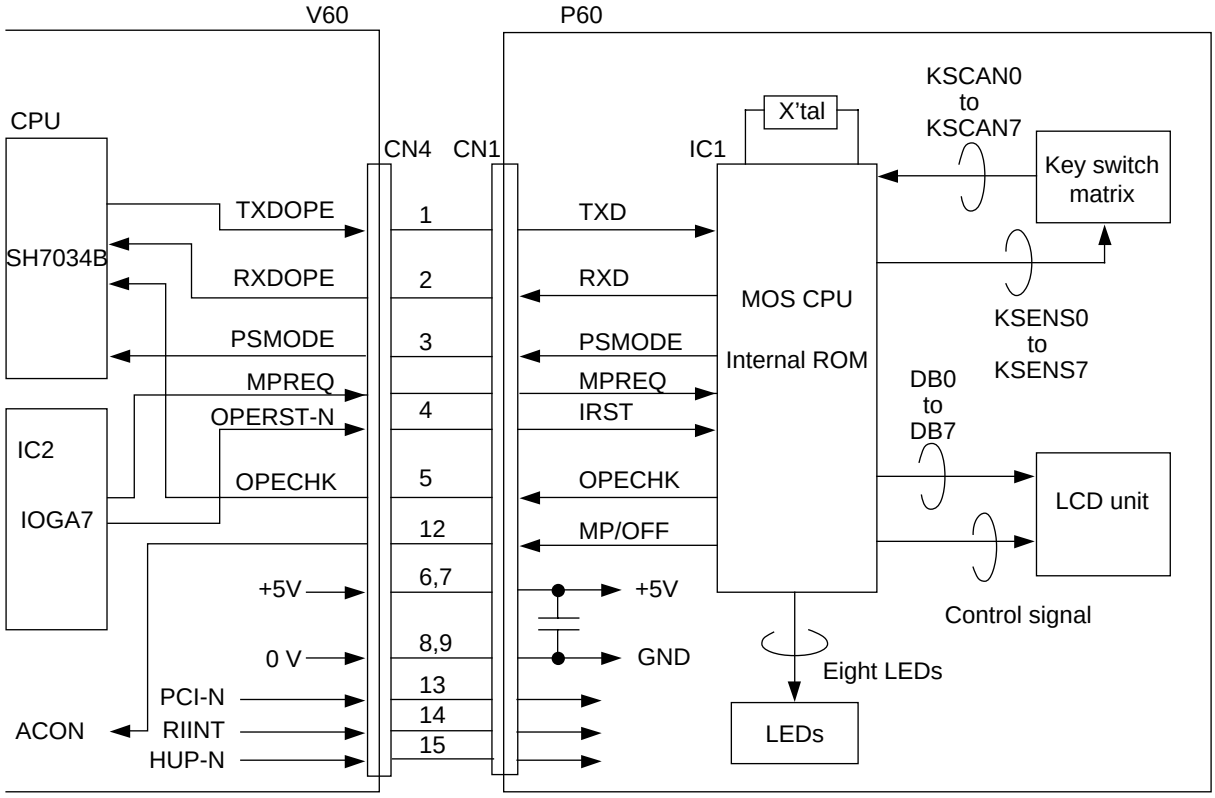


Figure 3.19 Block Diagram of OPE (operation unit)

3.3 EN2 and INU Circuit Diagram

The NCU board is selected from EN2 and INU because it differs depending on country's specifications.

- EN2
  UK, Flance, EC countries
- INU
  US, Canada, Australia, New Zealand, Singapore, China, Malaysia,
  non-EC countries (Poland etc.)

1. Block diagram
   - Figure 3.20 shows a block diagram of EN2 circuit.
   - Figure 3.21 shows a block diagram of INU circuit.

2. General functions of this circuit are as follows:
   1) Generates and detects signals to be exchanged with a telephone exchange or network in Phases A defined by ITU T.30.
      - Loop formation for call origination
      - Line current detection (see note 1) before call origination
      - Dial tone detection (see note 1)
      - Generation of dial pulses (see note 2)
      - Busy tone detection (see note 1)
      - Ringing signal detection

   2) Sends various data and signals from the V60 board to the telephone line after amplification.
      - Picture data/Protocol/Tonal signals/MF tone, etc.

      Note1: This procedure may be omitted depending on the dial parameters.
      2: MF (Multi-frequency) tone is generated by the modem and transferred to the telephone line via the NCU board.

3. Explanation on CN3 Terminals

CN3 pin No.	Terminal name	Explanation	EN9	INU
36	OH2	Detection of off-hook of terminal connected to TEL-1 or TEL-2.		
40	RI	0 - 5 V signal output synchronized with the ringing signal frequency		
24	PP	Relay control signal for special service code detection at parallel pickup or remote reception		
13, 14, 41, 42	GND	Ground		
37, 38	sub + 5 V	Sub power supply for OH2 and RI detection		
33, 34	+ 5 V	Power supply for relays and logic circuits		
43	+ 5 VA	+5 V power supply for analog circuit		*
44	S	TX Signal		
45	– 5 VA	– 5 V power supply for analog circuit		*
48	R	RX Signal		
46, 47, 49	SG	Signal ground		
50	Rp	Receiving sensitivity determination terminal		
22	DP	Pulse dial control signal		
20	CML	Line seizure control signal		
30	F. ICC	Loop current control signal upon line seizure		*
28	SR	Control signal for connection between LINE and TEL terminals		
18	MUTE	Control signal for pulse dial improvement and bell shunt relay		

Note : Unused.

4. EN2 circuit diagram

① Lightning arresters (AR1, 2)
The nominal operating voltage is 500 V.
When connecting the ground of the arrestor to the chassis, tighten ARG on the PCB with a screw. At this time, the PCB is grounded through the power cable.
The TB1 arrestor ground terminal can also be used to connect to the earth directly.

③ Diode bridge (DB1)
This circuit rectifies the loop current so that the DC circuit characteristics are not affected by a polarity change over the line.

④ DC circuits (Q1, R506, R507, C4, R602)
These circuits provide DC characteristics according to the line requirements.

⑤ Impedance matching network (R510, R512, C502)
This circuit matches the impedance between the line and equipment to reduce reflection of transmitted signals.

⑥ Receiving sensitivity (R517, R518, C520)
The receiving sensitivity at line hunting is determined by R518, C520 and the MF tone receiving sensitivity at parallel pickup is determined by R518, C520, R517.

⑦ CML (RL1)
This circuit selectively switches the line between the telephone or facsimile.

⑧ SR (RL2)
This circuit connects the line with the telephone. During facsimile transmission, it disconnects the telephone.

⑨ DP (IC2)
This circuit generates pulse dial signals.

⓪ MUTE (IC3)
During pulse dialing, this circuit closes to reduce the DC loop resistance.

Ⓐ PP (RL6)
When it detects MF or CNG tones without seizuring a line, it disconnects NT (5) to increase the input impedance and also sets the receiving sensitivity.

Ⓑ MUTE (RL3)
During pulse dialing, this circuit opens to prevent pulse distortion caused by capacitor C7. When it detects MF or CNG tones without seizuring a line, it opens to increase the impedance.

Ⓒ Pickup RC (R505, C5)
These circuits insert a high-impedance resistor and capacitor serially to prevent the line impedance from dropping by the line transformer T1.

Ⓓ Ring detectors (IC1)
These circuits detect a ring signal arriving to the line. If the input ring signal exceeds a specific voltage, the circuits output a signal of RI having the same frequency as the incoming RI.

Ⓔ Line transformer (T1)
This circuit processes send/receive signals required for facsimile transmission, dial tone receive signals required for automatic dialing, and MF tone send and remote receive signals. It separates between the line and equipment in terms of DC and also keeps a balance between the line and the ground.

Ⓕ Off-hook detectors (IC8, RL7)
These circuits detect the off-hook state of the telephone connected to the TEL1, TEL2, through LINE terminals. IC8 uses a high detection sensitivity than of RL7. In TEL/FAX mode, the higher sensitive IC8 is used to detect the off-hook state of the telephone while the main equipment is hunting a line.
Usually, IC8 is short-circuited by the CML relay (7) in the standby state and RL7 is used for off-hook detection.

Ⓠ FICC (IC4)
This circuits reduces the DC resistance to increase the loop current momentarily to assure operation of the switch at line seizuring.

Ⓡ Constant current circuits (Q502 and Q503)
These circuits provide DC characteristics according to the TBR-21 requirement.

Ⓢ Shunt (RL9)
This circuit prevents bell resonances in the telephone sets connected in parallel during pulse dialing and also reduces distortions of the pulse waveform.

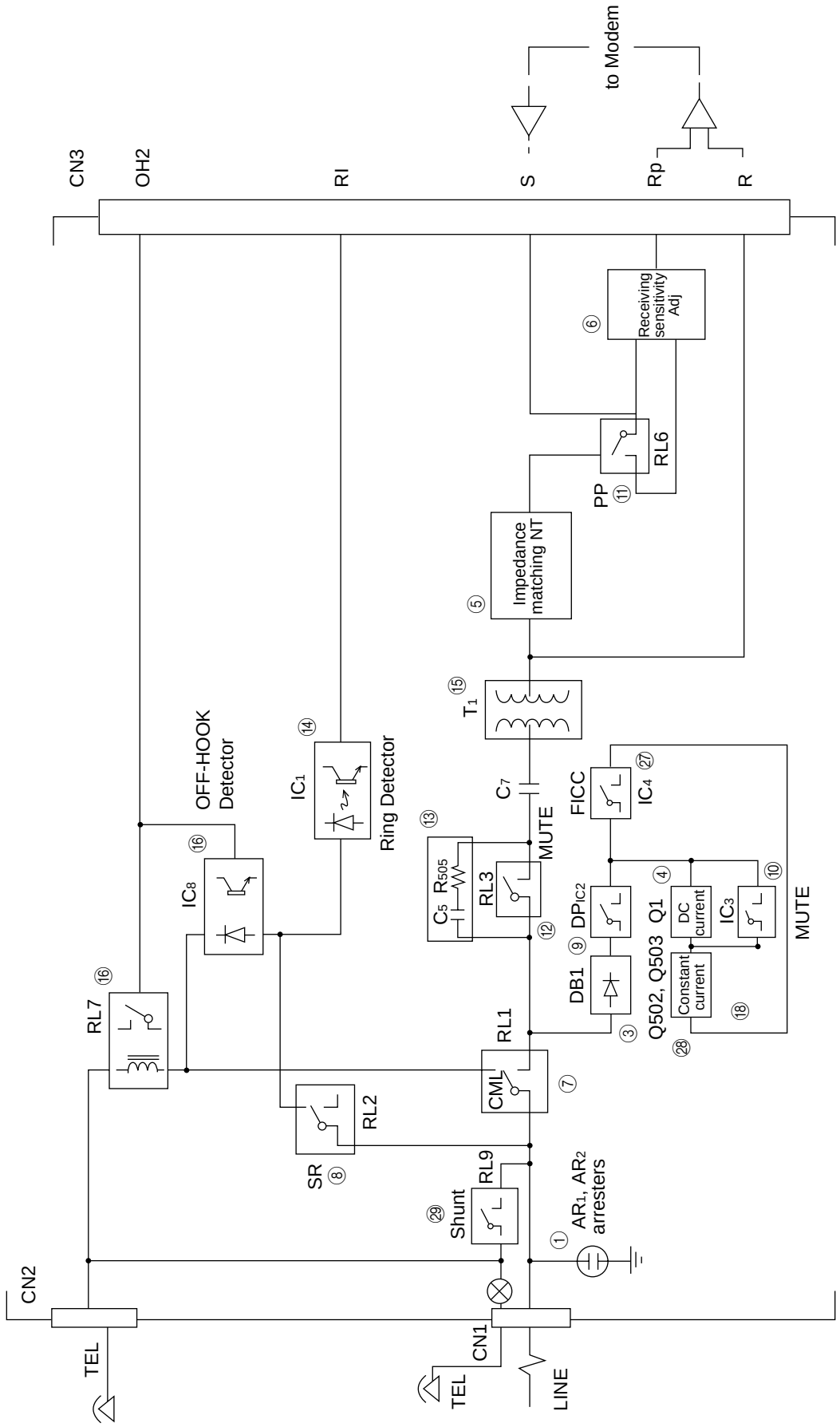


Figure 3.20 Block Diagram of EN2

5. INU circuit diagram

① Lightning arresters (AR1, 2)
The nominal operating voltage is 500 V.
When connecting the ground of the arrestor to the chassis, tighten ARG on the PCB with a screw. At this time, the PCB is grounded through the power cable.
The TB1 arrestor ground terminal can also be used to connect to the earth directly.

③ Diode bridge (DB1)
This circuit rectifies the loop current so that the DC circuit characteristics are not affected by a polarity change over the line.

④ DC circuits (Q1, R506, R507, C4, R602)
These circuits provide DC characteristics according to the line requirements.

⑤ Impedance matching network (R544, C513, R545, R510, C502, R512, R511, C503, R513)
This circuit matches the impedance between the line and equipment to reduce reflection of transmitted signals.
It provides impedance (return loss) characteristics to meet the line requirement using the connector keys (CN15 to CN35).

⑥ Receiving sensitivity (R516, R515, R543, R519, R520, R546)
The receiving sensitivity at line hunting is determined by R519, R520, R546 depending on the line impedance. Similarly, the MF tone receiving sensitivity at parallel pickup is determined by R516, R515, R543, R519, R520, R546. The receiving sensitivity is set using connector keys (CN15 to CN35).

⑦ CML (RL1)
This circuit selectively switches the line between the telephone or facsimile.

⑧ SR (RL2)
This circuit connects the line with the telephone. During facsimile transmission, it disconnects the telephone.

⑨ DP (IC2)
This circuit generates pulse dial signals.

⓪ MUTE (IC3)
During pulse dialing, this circuit closes to reduce the DC loop resistance.

Ⓐ PP (RL6)
If this circuits detects MF or CNG tones without seizuring a line, it disconnects Impedance matching Net work (5) to increase the input impedance and also sets the receiving sensitivity.

Ⓑ MUTE (RL3)
During pulse dialing, this circuit opens to prevent pulse distortion caused by capacitor C7.
If it detects MF or CNG tones without seizuring a line, it opens to increase the impedance.

Ⓒ Pickup RC (R505, C5)
These circuits insert a high-impedance resistor and capacitor serially to prevent the line impedance from dropping by the line transformer T1.

Ⓓ Ring detectors (IC1)
These circuits detect a ring signal arriving to the line. If the input ring signal exceeds a specific voltage, the circuits output a signal of RI having the same frequency as incoming RI.

Ⓔ Line transformer (T1)
This circuit processes send/receive signals required for facsimile transmission, dial tone receive signals required for automatic dialing, and MF tone send and remote receive signals. It separates between the line and equipment in terms of DC and also keeps a balance between the line and the ground.

Ⓕ Off-hook detectors (IC5)
These circuits detect the off-hook state of the telephone connected to the TEL.

Ⓖ Impedance switches (CN15 to CN35)
These circuits set the impedance according to the line requirement.
220: 220 ohm + 820 ohm//115 nF (CN15)
370: 370 ohm + 620 ohm//310 nF (CN35)
600: 600 ohm (CN25)

Ⓘ Ring impedance switches (S1-1, 2)
These switches set the ring impedance according to the line requirement.

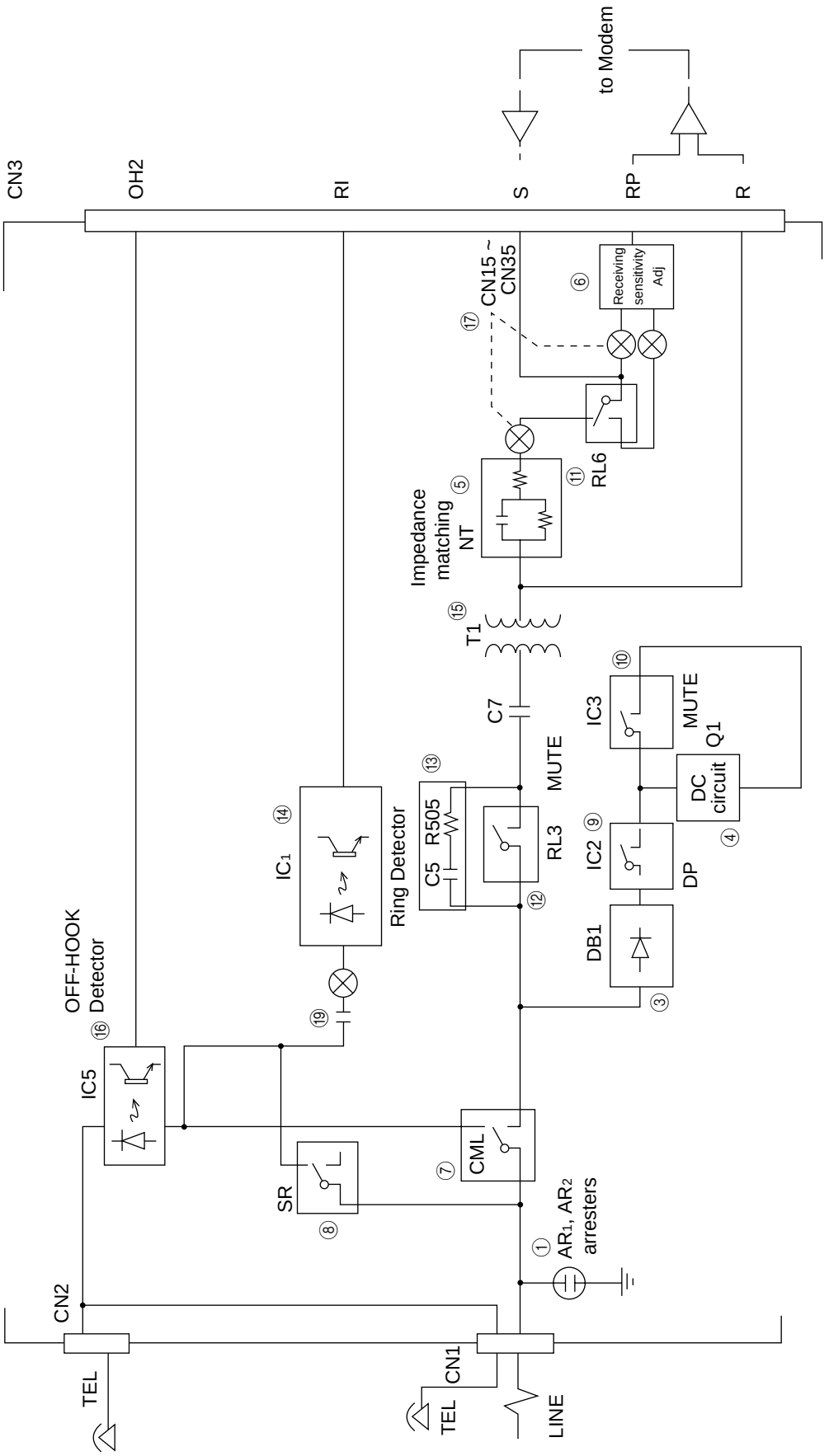
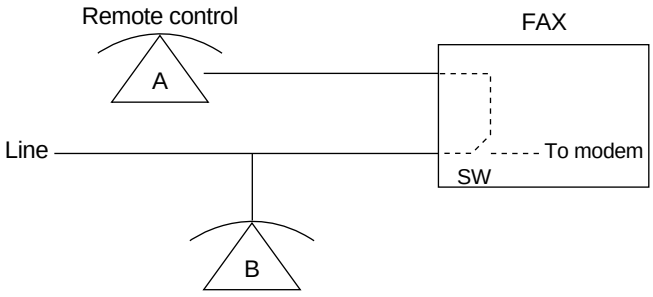


Figure 3.21 Block Diagram of INU

6. Outline of Parallel Pick Up

Parallel pick up is a function that controls a fax (to make a fax in receive mode) from a telephone set connected parallel to a fax. The two possible parallel connections of telephone sets A and B are shown in the figure.



Remote control: To control a fax from telephone set A.
Parallel Pick UP (PP): To control a fax from telephone set B.

- Why a PP function is needed!
  As shown in the following block diagram, telephone sets B, A and A'' are connected to a telephone line.
  Since A and A'' are connected to the line via fax, off-hook status of any of the telephone sets can be detected by the OFF-HOOK Detector F in the block diagram. However, off-hook status of telephone set B cannot be detected by the fax side.
- PP Control
  When a normal ring arrives at the fax from the line, the CML 7 turns on resulting in the formation of an AC loop via circuit C. The AC loop makes it possible for the modem to detect the AC signals. If a user hooks up telephone set B after the first ring and enters the MF 2-digit special code in order to make the fax in the receive mode, then it becomes possible to detect the MF signals along that route.

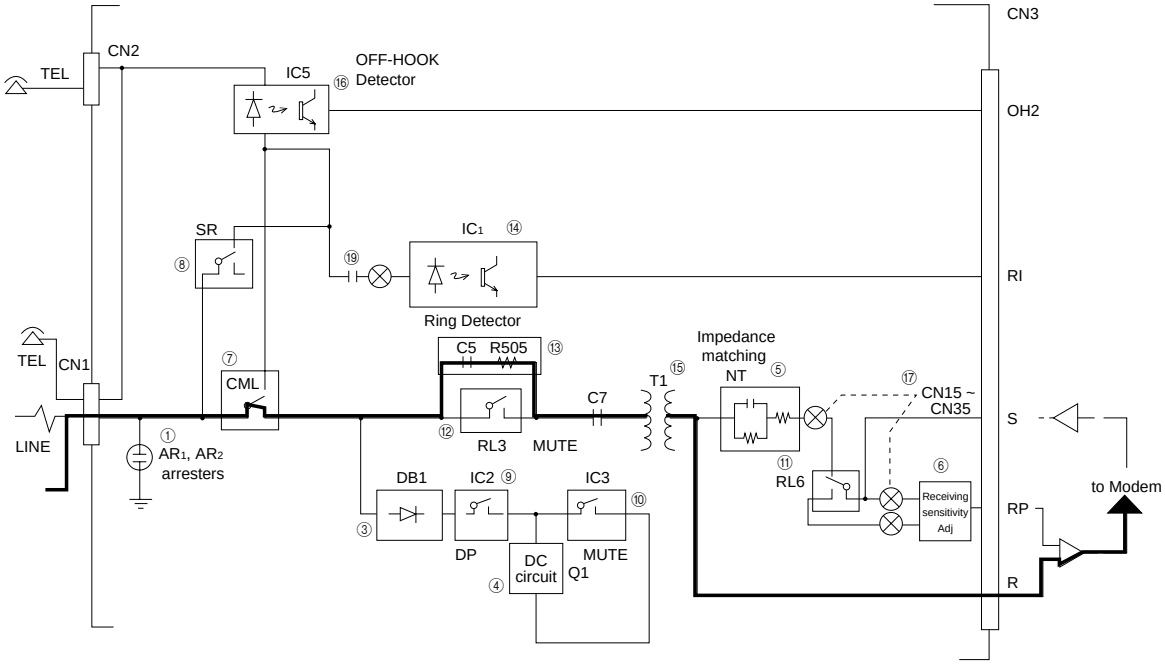


Figure 3.22 Block diagram for Parallel Pick Up Path

3.4 Power Supply Board

Caution:
- Voltage charged in the capacitor may cause shock hazards. After turning on the AC power, never touch the pattern on the power supply board.
- For maintenance, Oki Data Corporation recommendes replacement of Power supply board (Both high voltage power supply board and Low voltage power supply board), but not repair of the boards.
  Any purchase orders for components of the power supply board are not accepted. Any trouble on power supply board that was repaired at your side once is not guaranteed.

1. Low voltage power supply board
   MPW1561: 120V
   MPW1461: 230V

   (1) Specifications

   AC power input range:

	Input voltage	Frequency
MPW1561	120V (-15%, +6%)	50Hz/60Hz (+/-2%)
MPW1461	230V (-14%, +15%)	50Hz/60Hz (+/-2%)

   Note: Onlythe MPW1461 conforms to the radio-frequency interference requlations and has a power saving feature.

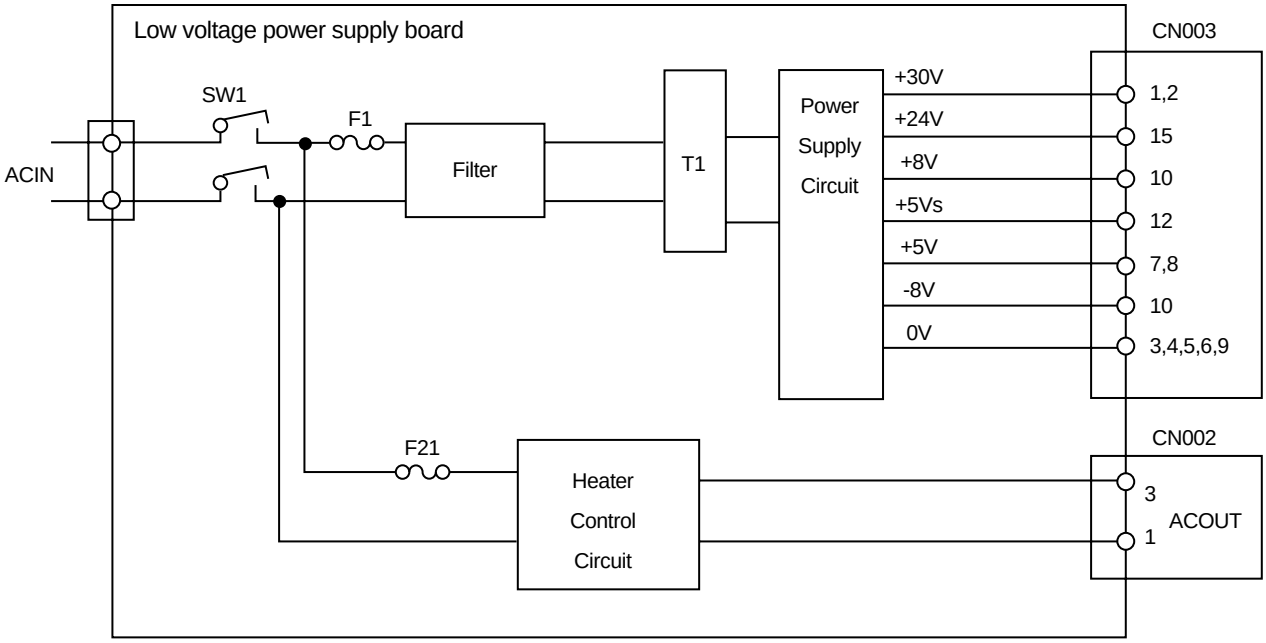
   Output range:

Connector/Pin No.	Normal output Voltage	Voltage range	Normal output Current	Load alteration range
CN003/Pin 7,8	+5V	+/-4%	2.0A	0.4 - 2.0A
CN003/Pin 1,2	+30V	26 - 45V	1.04A	0 - 1.34A
CN003/Pin 10	+8V	+/-4%	0.2A	0 - 0.2A
CN003/Pin 11	-8V	+/-4%	0.2A	0 - 0.2A
CN003/Pin 15	+24V	23 - 25V	0.4A	0 - 0.4A
*CN003/Pin 12	+5Vs	+/-4%	20mA	15m - 50mA

   Note: The MPW1561 does not supply +5Vs from CN003/Pin 12 because it is used in the power save mode.

   Protection against overvoltage/overcurrent
   +5Vs/+5V: The protection should be open with Fuse (F501) and shorted with D503. And sometime D202, D203 should be shorted.
   +30V: This unit's O.C.P. is drooping characteristic type. (O.C.P. TIME: MAX 10S) The protection should be shorted with Q201.
   +8V: Overcurrent protection circuit operation
   -8V: Overcurrent protection circuit operation
   +24V: Overcurrent protection circuit operation

(2) Block Diagram



3.5 High-Voltage Power Supply Circuit (H08)

3.5.1 Functional overview

The high-voltage outputs consist of TR1 (3.5 kV), TR2 (-0.75 kV), DB1 (+300 V), DB2 (-300 V), SB2 (-450V), CB (+400 V) and CH (-1.35 kV) and are obtained as follows. The control signal obtained from CPU of E17 board is applied to High-voltage power supply circuit. As result, the driver current is applied to the drive circuit, which will provide the high-voltage outputs.

Note:

Signal Name	Output Voltage	Application
SB1/SB2	0±5V/-450V	Voltage applied to toner supply roller.
DB1/DB2	+300V/-300V	Voltage applied to developing roller.
TR1/TR2	+3.5 kV/-0.75 kV	Voltage applied to transfer roller.
CH	-1.35kV	Voltage applied to charging roller.
CB	+400V	Voltage applied to cleaning roller.

3.5.2 SB2, DB1, DB2 and CB

1) These four high-voltage outputs are obtained from the flyback voltage of Q10.

2) The positive and negative voltages of DB1 and DB2 are obtained by switching the charging direction under the triac and thyristor.

3) Feedback is not applied to these outputs. However, SB2 is limited by D85 and DB2 is limited by D84 so as not to provide an output exceeding a preset voltage.

3.5.3 TR1 and TR2

1) The TR1 high-voltage is obtained by rectifying the secondary output of Q17 switching circuit by a voltage-doubler rectifier.

2) TR1 output circuit has both constant current (hereinafter called CC) and constant voltage (hereinafter called CV) modes.

3) At first, TR1 output circuit operates in the CC mode. Once the voltage determined by parameters such as roller and medium is obtained, this circuit changes to operate in the CV mode by the control signal.

4) The TR2 output voltage is regulated by keeping the voltage obtained by switching operation of Q15 at a constant voltage by D66 and D65.

3.5.4 CH

1) The CH output voltage is stabilized by keeping the primary flyback voltage obtained by switching operation of Q16 at a constant voltage by D76 and D82.

3.5.5 Photosensors

The photosensors mounted on this circuit board/sensor board supervise the paper running state during printing. These six photosensors are used in this printer as listed below. All of their outputs enter IOGA7 for referring to and processing by the CPU.

1) PS1 (photosensor 1): PSOUT
   Supervises the paper feed according to the time of arrival at the sensor and the time of passage of paper.

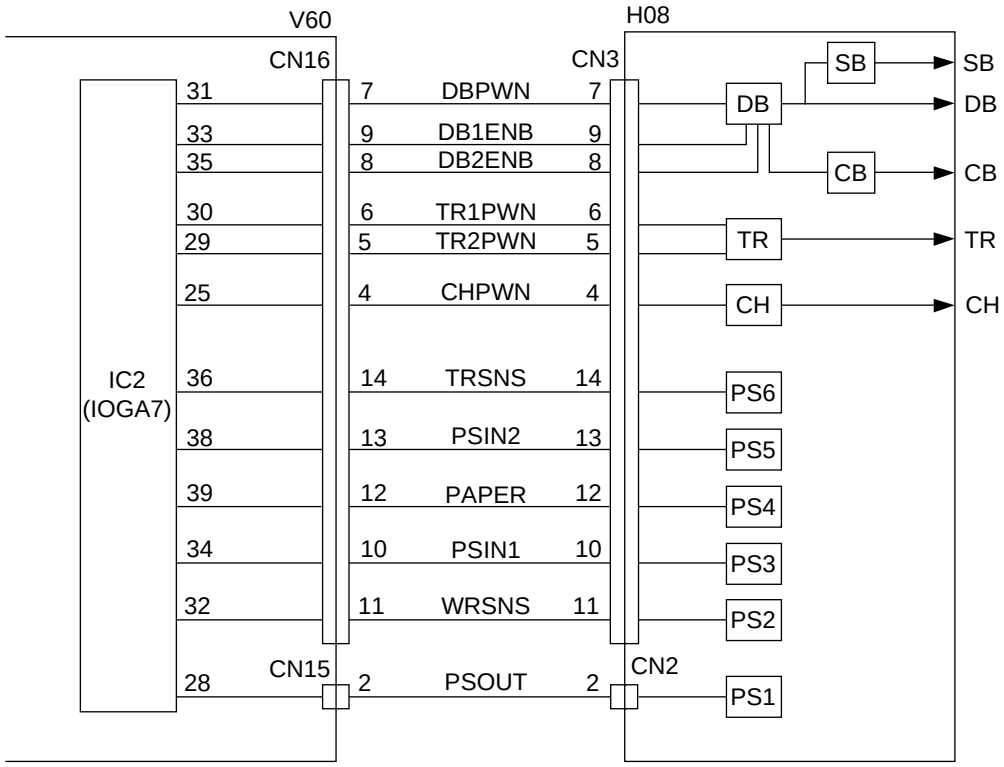
2) PS2 (photosensor 2): WRSNS
   Detects the leading part of sensor.
   Supervises the paper running state.

3) PS3 (photosensor 3): PSIN1
   Detects the leading part of the paper and gives the supervision timing for switching from hopping operation to feeding operation. Supervises the paper running state and the paper size according to the paper arrival time and running time.

4) PS4 (photosensor 4): PAPER
   Detects the end of the paper.

5) PS5 (photosensor 5): PSIN2
   Not used.

6) PS6 (photosensor 6): TONER
   Detects the lack of the toner.



3.6 RA1 (memory board) Circuit Diagram (option)

By mounting this optional memory board (MEM), it can be used for the expansion memory.

1. Block diagram
   Figure 3.23 shows a related signal of memory board.

   Memory board circuit consists of the following block.

   1) 2Mbyte MOS DRAM for RAM1 and RAM501.
      8Mbyte MOS DRAM for RAM1.
      Used as follows:
      - Picture memory for the ECM send/receive modes.
      - Picture memory for the memory transmission mode.
      - Picture memory for the retransmission data.
      - Picture memory for the reception in memory

   2) Memory capacity
      The relationship between memory capacity and mounted boards are shown in the following table.

Memory Capacity	RAM1	RAM501
2 Mbyte	A	—
4 Mbyte	A	A
8 Mbyte	B	—

"A" means 2 Mbyte MOS DRAM is mounted.
"B" means 8 Mbyte MOS DRAM is mounted.
"—" means no mount.

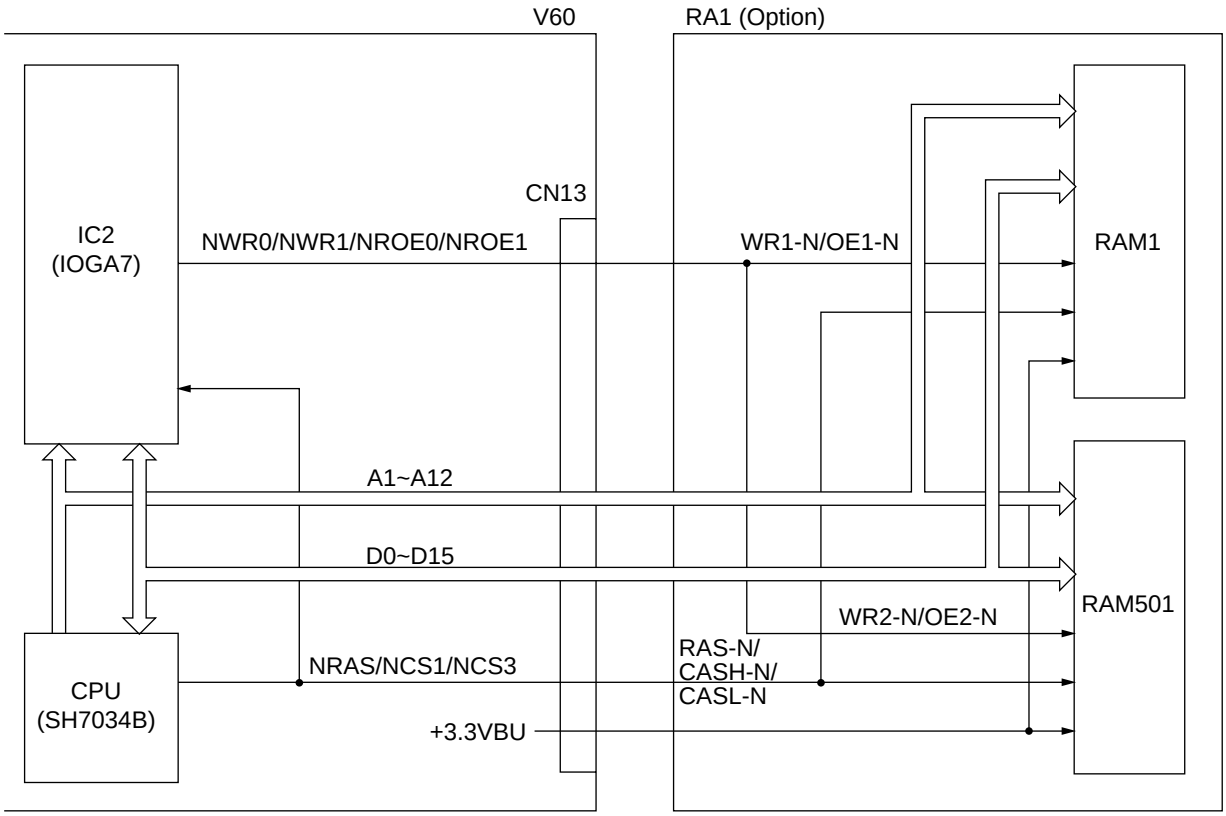


Figure 3.23 Related Signals of Memory Board (option)

3.7 TQSB (Second tray) Circuit Diagram: option

1. Block diagrm
   This board is installed as the optional board.

   Figure 3.24 shows a block diagram of the second tray (option).

2. Function
   Second tray consists of the following functions:
   - Paper capacity : 500 sheets
   - Paper size : A4, Letter, Legal
   - Paper-size selection : Automatic
   - Cassette/no-cassette selection : Automatic
   - Paper/no-paper selection : Automatic
   - Paper route open to facsimile transceiver unit : Automatic decision

   Control method:
   When second tray is installed with the facsimile transceiver unit, the tray is connected to the facsimile transceiver unit by a connecting cable. The tray is controlled by the command from CPU of PU (printer unit) section.

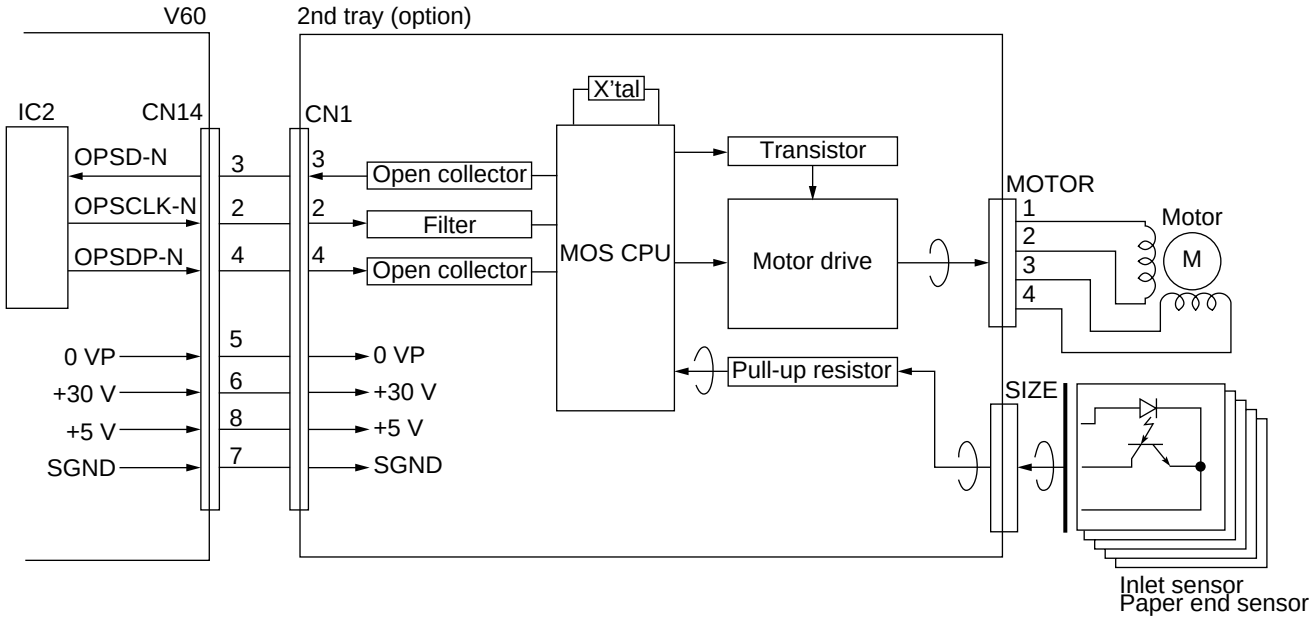


Figure 3.24 Block Diagram of 2nd Tray

3.8 CT2 (PC interface unit) Circuit Diagram (option)

CT2 board is used as an interface board of PC and FAX when PC is connected to facsimile machine.

1. Block diagram
   CT2 board circuit is formed by Receiver, Driver, and 1284-I/F.

   Figure 3.25 shows related signals of CT2 board.

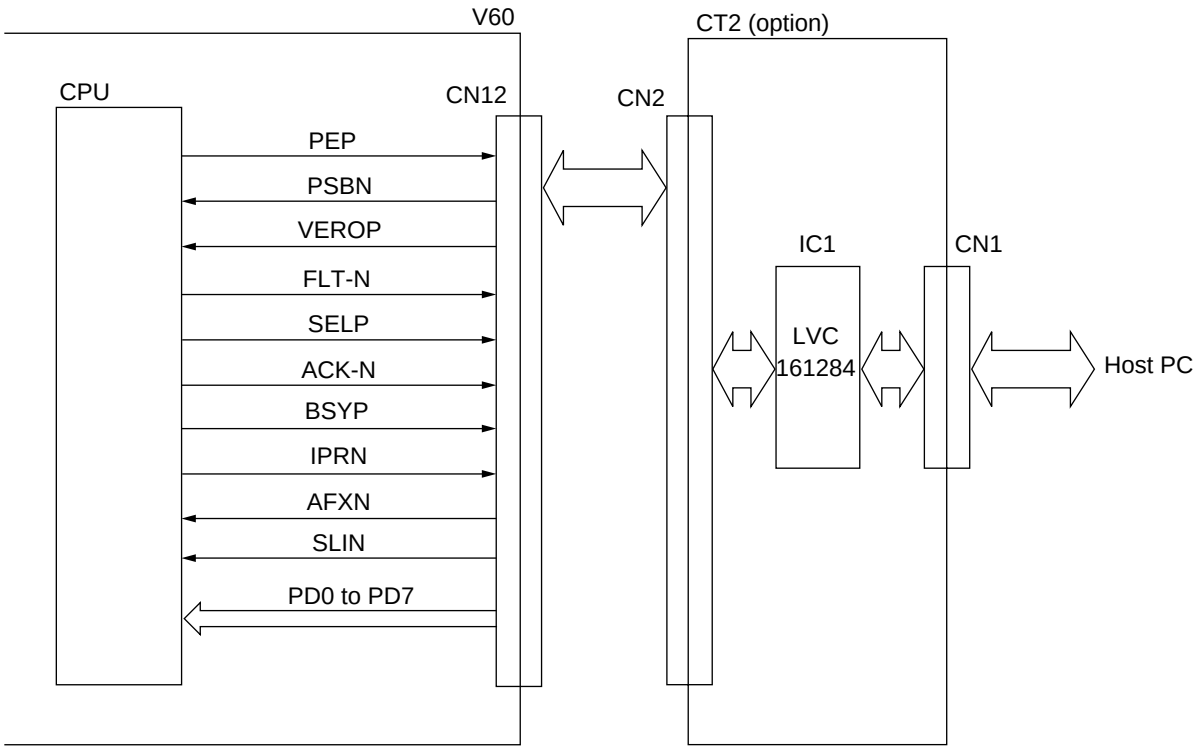


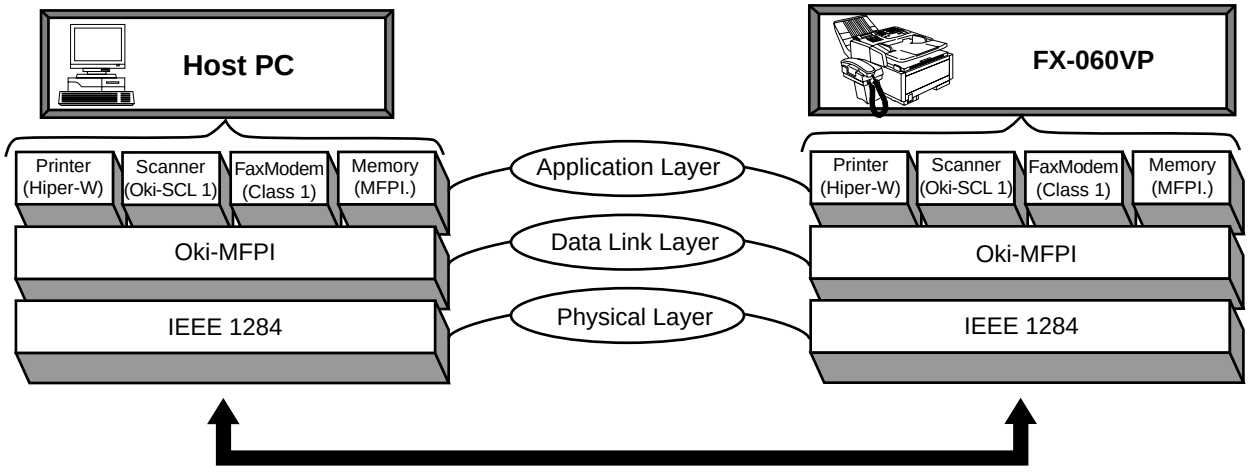
Figure 3.25 Related Signals of CT2 (PC interface unit)

2. Function

1) Summary
By installing the optional board (Bi-Centro), the following MFP (Multi-Function Peripheral) function can be realized.

Example:
- PC printer function (300/Q600 dpi) 8PPM
- PC Scanner function 300 dpi
- PC Fax Modem function (TIA/EIA Class 1)
- PC Memory function
- PC Multiplex function Disable Enable

Interface between Fax machine and Host PC consists of three layer structure as detailed below, each sub-system can be operated at the same time by adopting a Oki-MFPI protocol in both Fax machine and Host PC.



a) Application layer:
Performs a function control of each sub-system at the Host PC and Fax machine.

b) Data-Link layer:
Performs a protocol control at the Host PC and Oki-MFPI (TIA IS650 Level 1 requirement).
(Packetize/Unpacketize, flow control, Transfers command/data between each sub-system)

c) Physical layer:
Has a bi-directional interface control circuit which conforms to IEEE1284.
Standard mode: Compatible, Nibble
Oki special mode: MCE (Mode Change Express)

Following devices are as sub-system:
1) Printer (HIPER-W: Host based Image PrintER for Windows)
Encodes a rater image data in Host PC and transfers a data with HIPER-W emulation.

2) Scanner (Oki-SCL 1: Oki-Scanner Control Language 1)
Transfers and image data of document scanned in Fax machine to the Host PC with Oki-SCL 1 command.

3) FaxModem (TIA/EIA Class 1)
Send/receive a Class 1 command between Host PC and Fax machine.

4) Memory (MFPL: Multi-Function Peripheral Language)
By using MFPL command, it is possible to display on screen of Host PC for condition of Fax machine and performs the initial registration of the telephone number used in Fax machine.

3.9 G4N-PCB

This PCB board is optionally available. Using this board allows the system to be ready for the G4 protocol.

The block diagram of this board is shown on the next page.

This board is connected to the MCNT board with a 50-pin connector (CN6). 23 pins of this connector are signals lines dedicated to the G4N board, and the remaining 27 pins are signal lines shared with the NCU board.

Data is transferred to/from the CPU on the MCNT board via the 2-KB dual port RAM. When data is sent, the MCNT board causes an interrupt to the G4N board using a CUREQ-N signal and writes data into the 2-KB dual port RAM. The G4N board expands the data from the dual port RAM in the DRAM, and sends the expanded data to the line via the driver.

When data is received, the G4N board causes an interrupt to the MCNT board using an OPREQ-N signal and writes data from the DRAM into the dual port RAM. The NCNT board reads data from the dual port RAM, expands the data in the DRAM on the MCNT board, and sends the data to the LED head via the IOGA7.

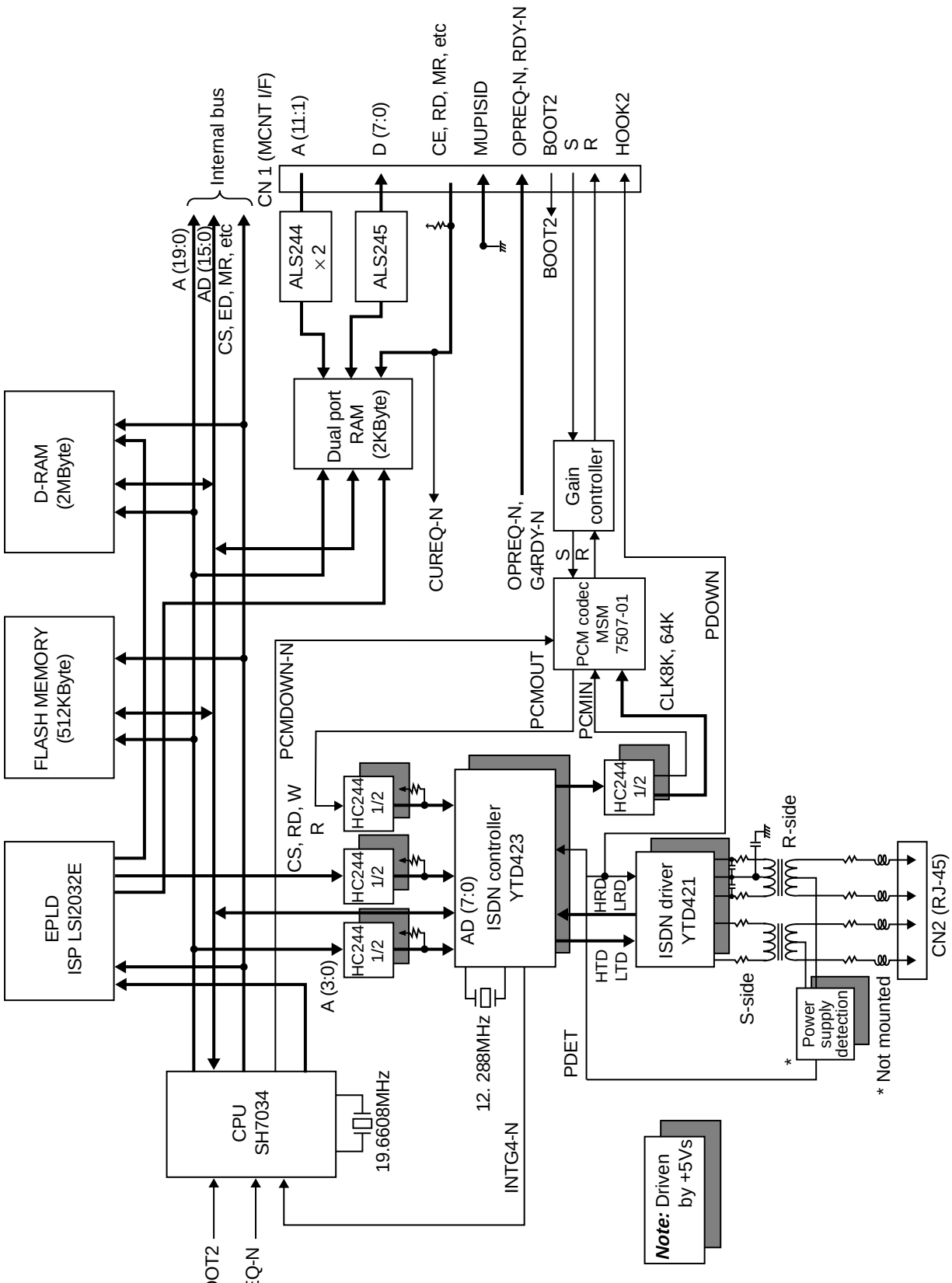


Figure 3.26 G4N Board Block Diagram

3.10 ICP board circuit

ICP board is used for T.37 Internet FAX communication. The block diagram of ICP board is shown on Figure 3.27. The ICHIP provides a protocol processing function for e-mail transmission and reception. Ethernet controller provides the interface function of ICHIP and 10BASE-T. PLD generates some interface signals for ICHIP and Ethernet controller.
Data is transferred to/from the V60 board via serial I/F.
At the time of transmission, a transmitting command and transmitting data are sent to ICHIP from V60 board. ICHIP transmits data to the mail server on network via 10BASE-T according to an SMTP protocol. At the time of reception, a receiving command is sent to ICHIP from V60 board. ICHIP receives data from the mail server on LAN via 10BASE-T according to a POP protocol. Then, receiving data is sent to V60 board.

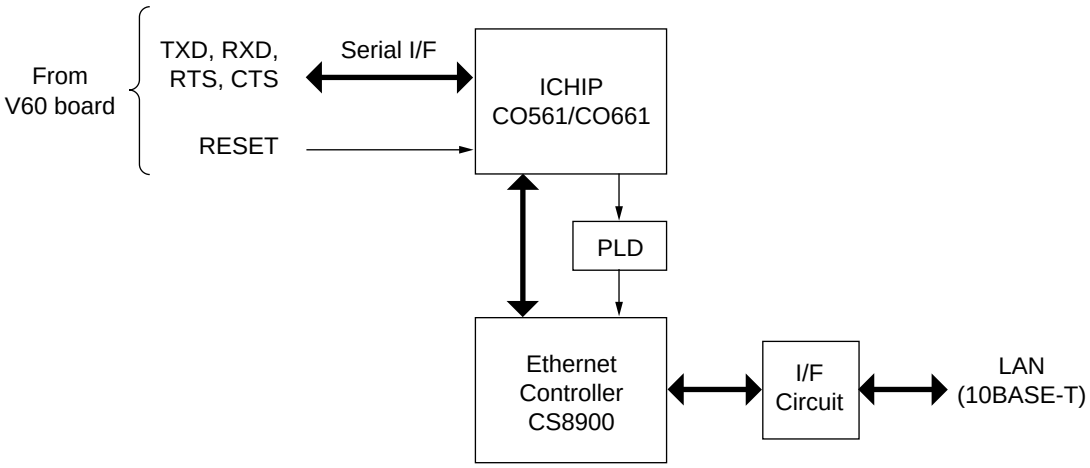


Figure 3.27 ICP board block diagram

APPENDIX B DESCRIPTIONS OF PRINT OPERATION

1. Mechanical Components

1) EP drum cartridge
The EP (image) cartridge consists of an EP (image) drum, a charger, and a developer. The cartridge forms a toner image on the drum, using an electrostatic latent image formed by the LED print head.

2) Resist motor
This resist motor is a pulse motor of 48 steps/rotation that is two-phase excited by the signal from the V60 board. It drives the hopping roller and the resist roller via two one-way clutches according to the direction of rotation.

3) Drum motor
This drum motor is a pulse motor of 48 steps/rotation that is two-phase excited by the signal from the V60 board and is the main motor of this mechanism.

4) LED head
Image data for each dot on a line from the V60 board is received by the shift registers and latch registers. The Letter size LED head are driven to radiate the image data on to the EP (image) drum.

5) Fuser
The fuser consists of a heater, a heat roller, a thermister and a thermostat.

An AC voltage from the power supply board is applied to the heater under the control of the HEAT-N signal from the V60 board. This AC voltage heats the heater. The V60 board supervises the heat roller temperature via the thermistor, and regulates the heater roller at a predetermined temperature (about 185 ˚C) by connecting or disconnecting the AC voltage supply to the heater.

If the heater roller temperature rises abnormally, the thermostat of the heater voltage supply circuit is activated to cut off the AC voltage supply forcibly.

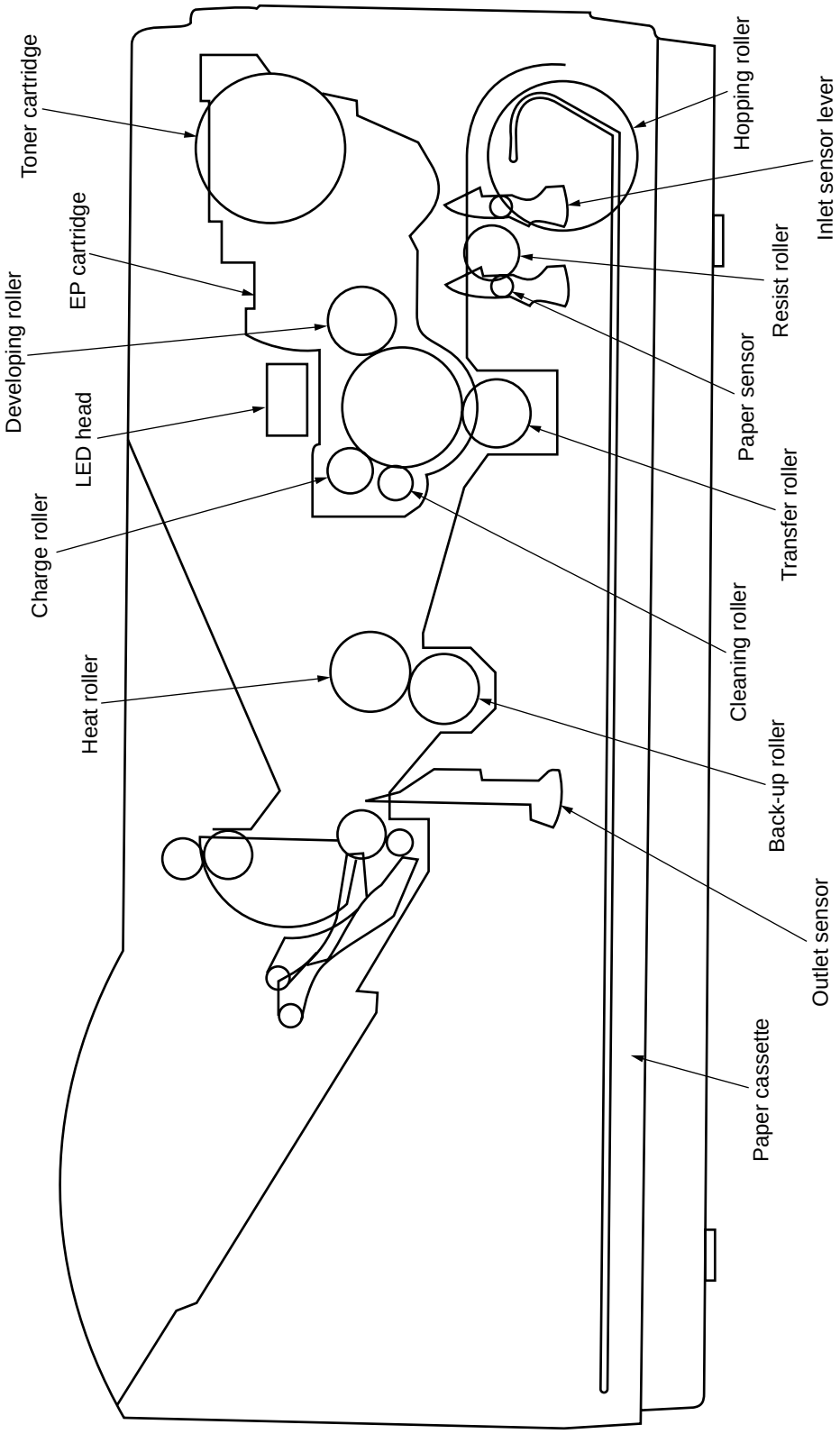


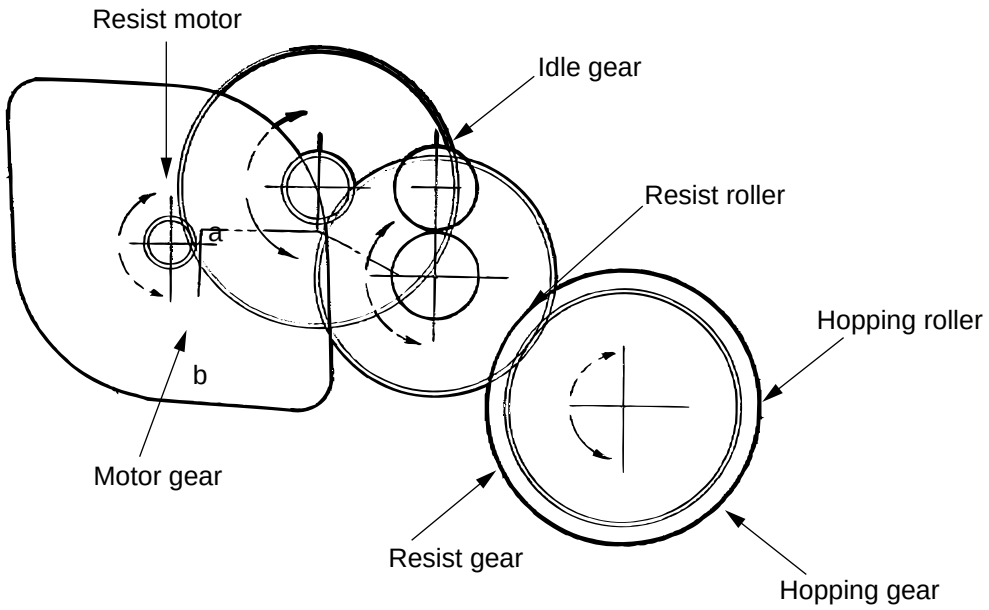
Figure 1.1 Layout of Print Station Components

2. Description of Print Operations

2.1 Process Operations

1) Hopping and feeding

Hopping and feeding are affected by a single resist motor in the mechanism shown below.

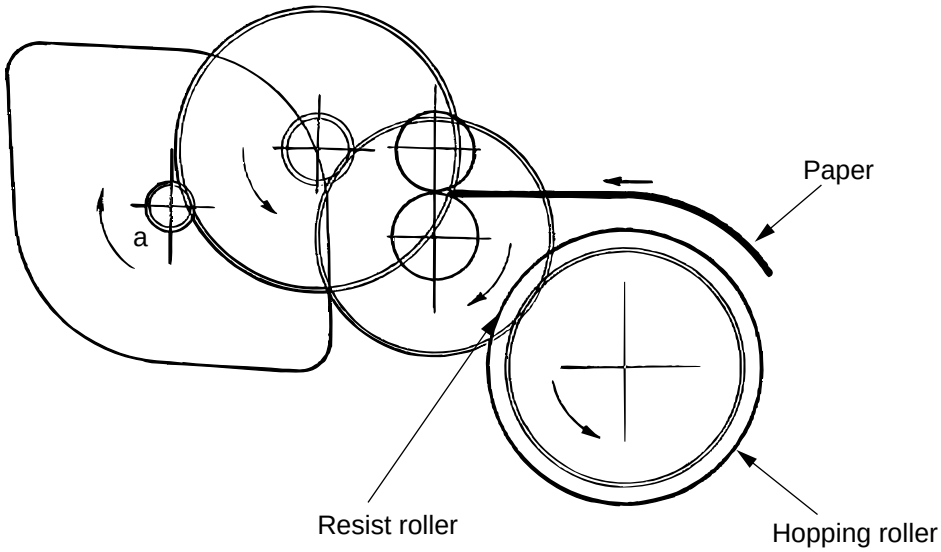


Turning the resist motor in the "a" direction drives the hopping roller. Turning the resist motor in the "b" direction drives the resist roller. The resist gear and hopping gear contain one-way clutch, so that turning each of these gears in reverse direction will not be transmitted to the corresponding roller.

(a) Hopping

① Hopping turns the resist motor in the "a" direction (in the CW direction) and drives the hopping roller to advance the paper until the inlet sensor turns on. (In this case, the resist gear also turns, but the resist roller is prevented from turning by the one-way clutch gear.)

② After the paper has turned on the inlet sensor, the paper is further advanced by a predetermined length until the paper hits the resist roller. (The skew in the paper can thus be corrected.)

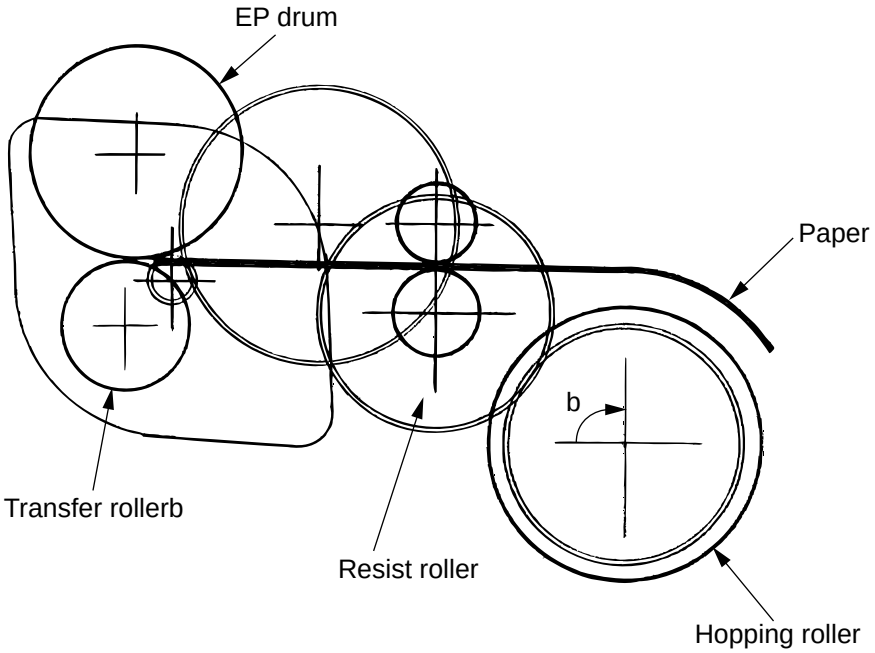


CW = Clockwise

(b) Feeding

① After end of hopping, turning the resist motor in the "b" direction (in the CCW direction) drives the resist roller to advance the paper. (In this case, the hopping gear also turns, but the hopping roller is prevented from turning by the one-way clutch gear.)

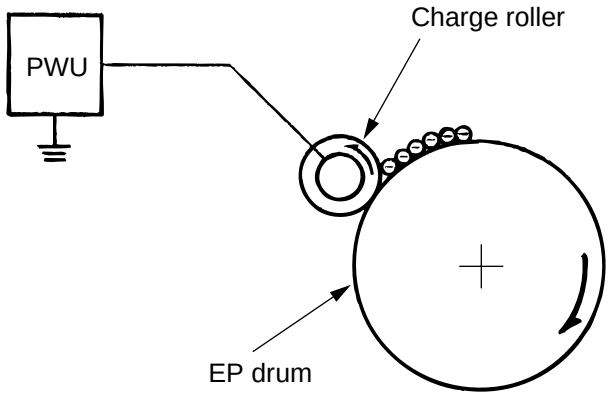
② The paper is further advanced in synchrony with the print data.



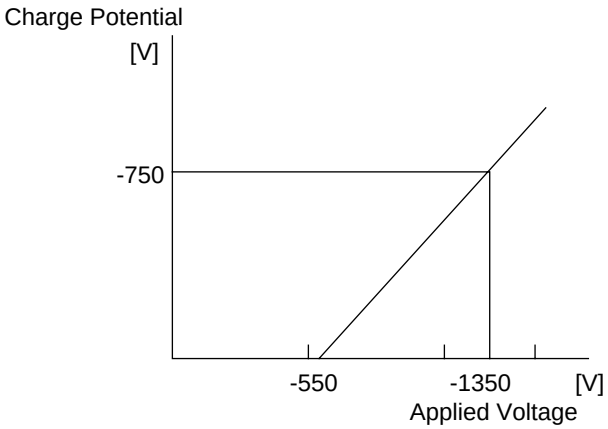
CCW = Counterclockwise

2) Charging

Charging is affected by applying a DC voltage to the charge roller thta is in contact with the EP (image) drum surface.

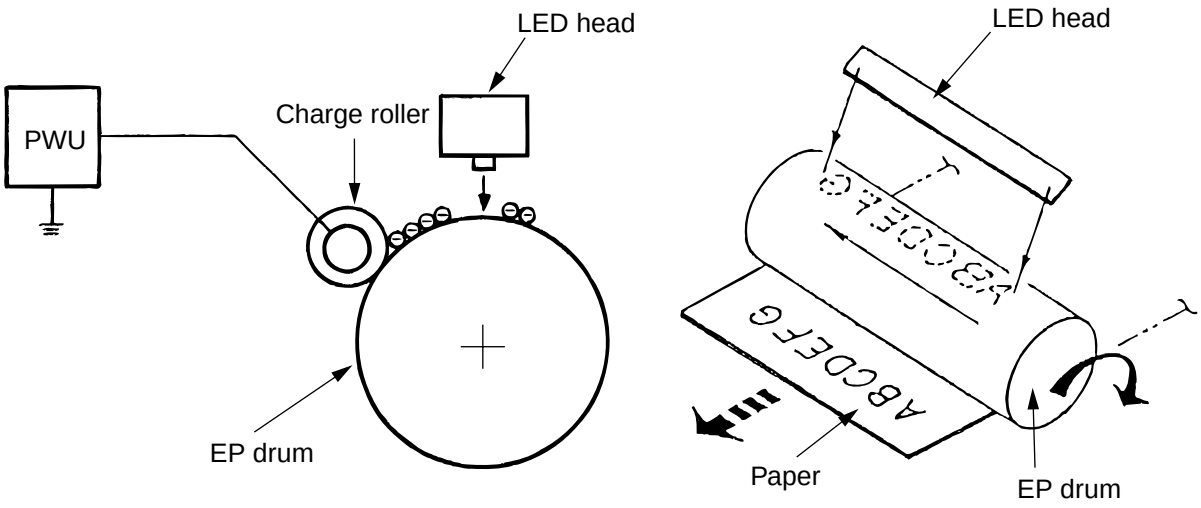


The charge roller is composed of two layers consisting of a conductive layer and a surface protective layer that has elasticity, in order to secure a good contact with the EP (image) drum. When the DC voltage (-1.35 KVDC) applied from the Power Supply Unit exceeds a threshold value, charging begins. The applied voltage is proportional to charge potential with off set of approx. -550V.

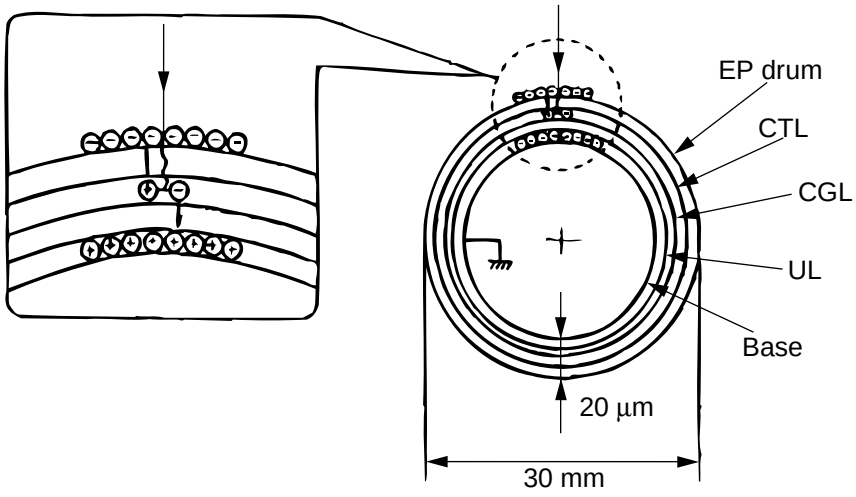


3) Exposure

Light emitted from the LED head irradiates the EP (image) drum surface with negative charges. The surface potential of the irradiated part of the EP drum drops, thereby forming an electrostatic latent image associated with the image signal.



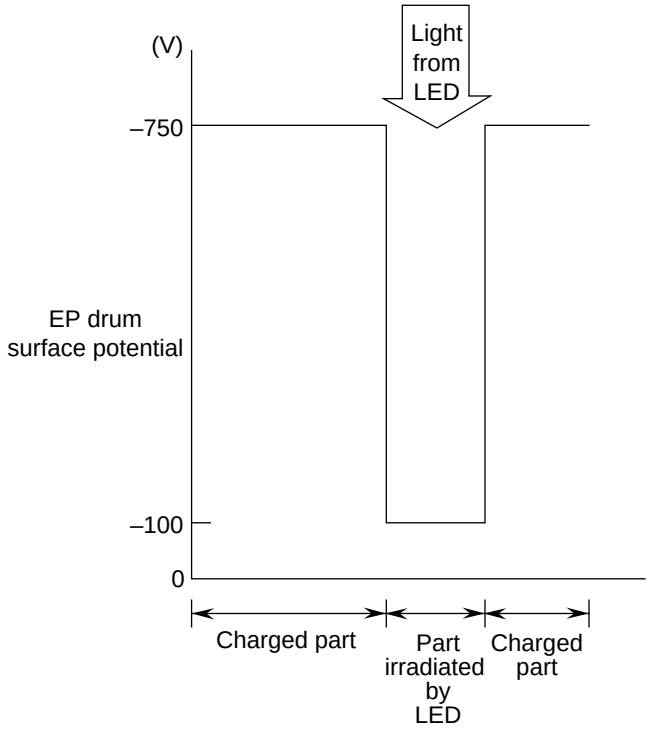
The EP (image) drum is coated with an underlayer (UL), a carrier generation layer (CGL), and carrier transfer layer (CTL) on the aluminum base. The organic photo conductor layer (OPC), comprising a CTL and a CGL, is about 20 mm thick.



The EP (image) drum surface is charged to about -750 V by the contact charge of the charge roller.

When light from the LED head irradiates the EP (image) drum surface, the light energy generates positive and negative carriers in the CGL. The positive carriers are moved to the CTL by an electrical field acting on the EP (image) drum. Likewise, the negative carriers flow into the aluminum layer (ground).

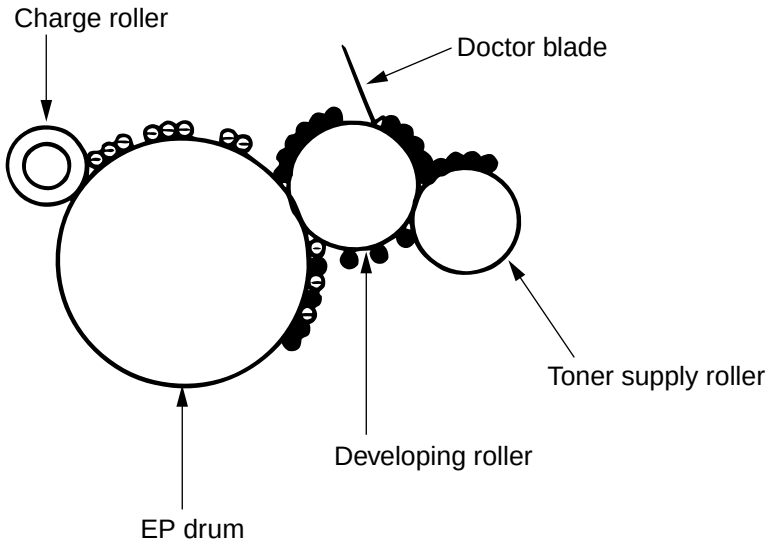
The positive carriers moved to the CTL combine with the negative charges on the EP (image) drum surface accumulated by the contact charge of the charge roller, lowering the potential on the EP (image) drum surface. The resultant drop in the potential of the irradiated part of the EP (image) drum surface forms an electrostatic latent image on it. The irradiated part of the EP (image) drum surface is kept at about -100 V.



4) Developing

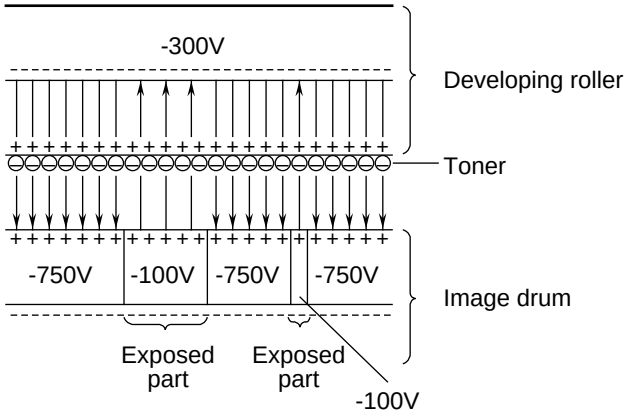
Toner is attracted to the electrostatic latent image on the EP (image) drum surface to convert it into a visible toner image. Developing takes place at the contact between the EP (image) drum and the developing roller.

① As the toner supply roller rotates while rubbing on the developing roller, a friction charge is generated between the developing roller and the toner, allowing the toner to be attracted to the developing roller. (The developing roller surface is charges positive and the toner, negative.)



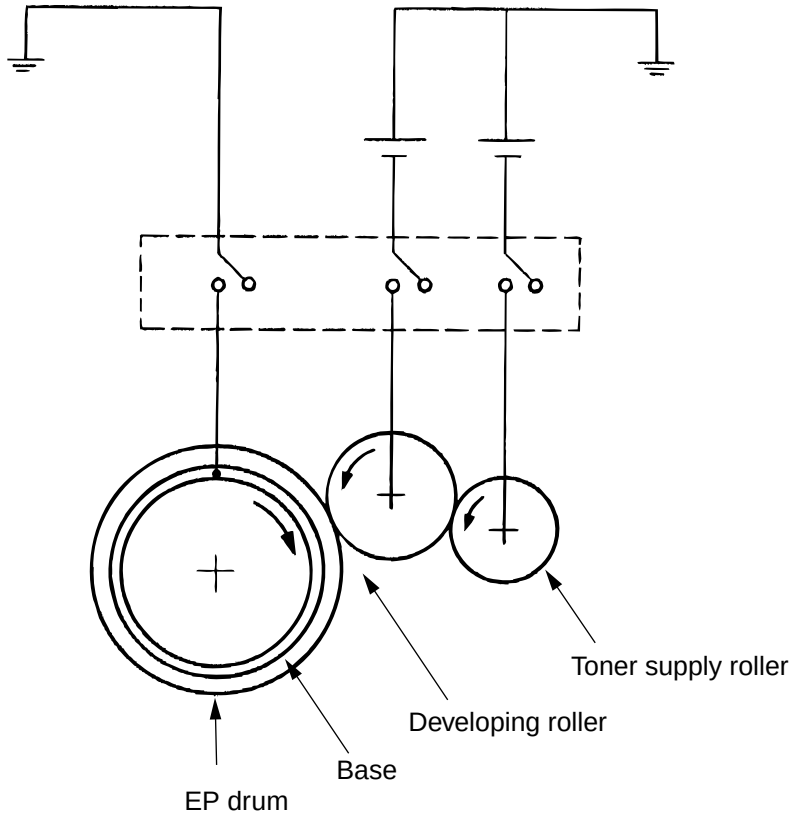
② The toner attracted to the developing roller is scraped off by the doctor blade, forming a thin coating of toner on the developing roller surface.

③ Toner is attracted to the exposed part (low-potential part) of the EP (image) drum at the contact between the EP (image) drum and the developing roller, making the electrostatic latent image visible.



An illustration of activities at the contact point of the image drum surface and the developing roller (arrow marks denote the direction of the electric field).

Note: The toner supply roller and the developing roller are supplied with bias voltages required during the developing process as shown below. -450 VDC is supplied to the toner supply roller, -300 VDC to the developing roller.

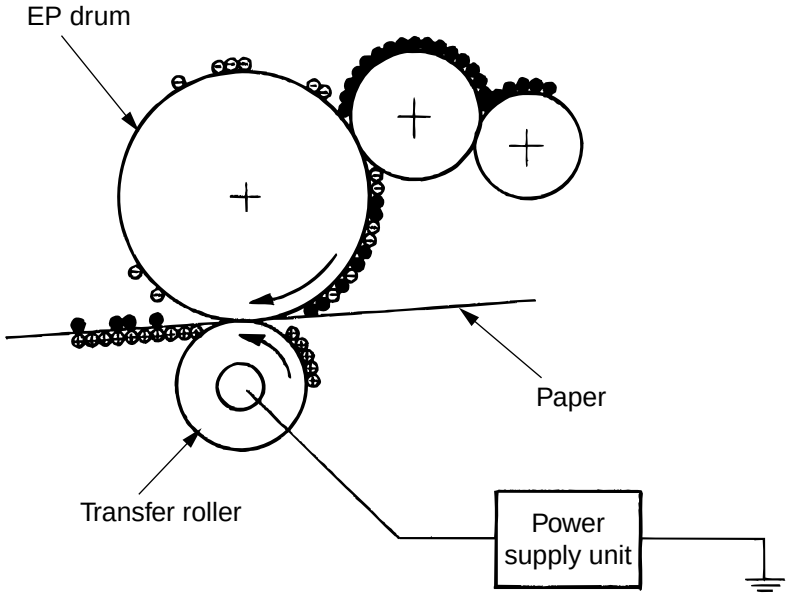


5) Transfer

The transfer roller is composed of conductive sponge material and is designed to make the EP (image) drum surface and the paper closely into contact.

Paper is placed over the EP (image) drum surface, and a positive charge, opposite in polarity to the toner, is applied to the paper from its reverse side.

The application of a high positive voltage (+1 KVDC) from the Power Supply Unit (1VP/2VP board) to the transfer roller causes the positive charge induced on the transfer roller surface to be transferred to the paper at the contact between the transfer roller and the paper. As a result, toner charged negative that is attracted to the EP (image) drum surface is transferred to the upper side of the paper by the positive charge on the lower side of the paper.

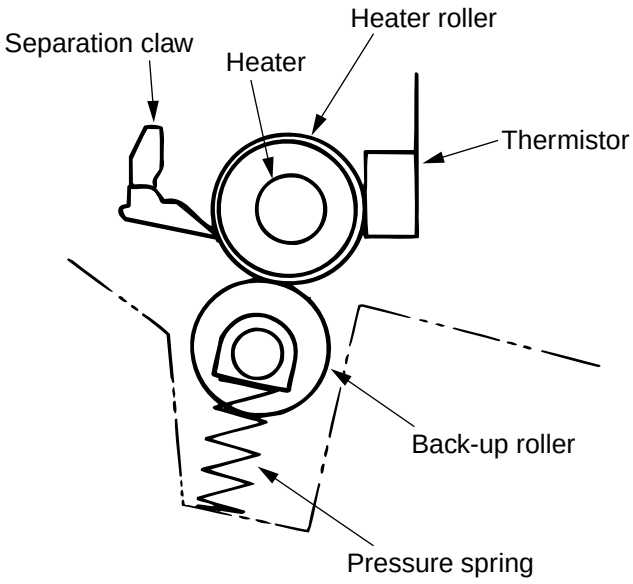


6) Fusing

After the end of the transfer operation, the unfused toner image is fused on the paper under heat and pressure as it passes between the heater roller and the back-up roller. The heater roller with a Teflon coating incorporates a 500 W heater (Halogen lamp), which heats the heat roller.

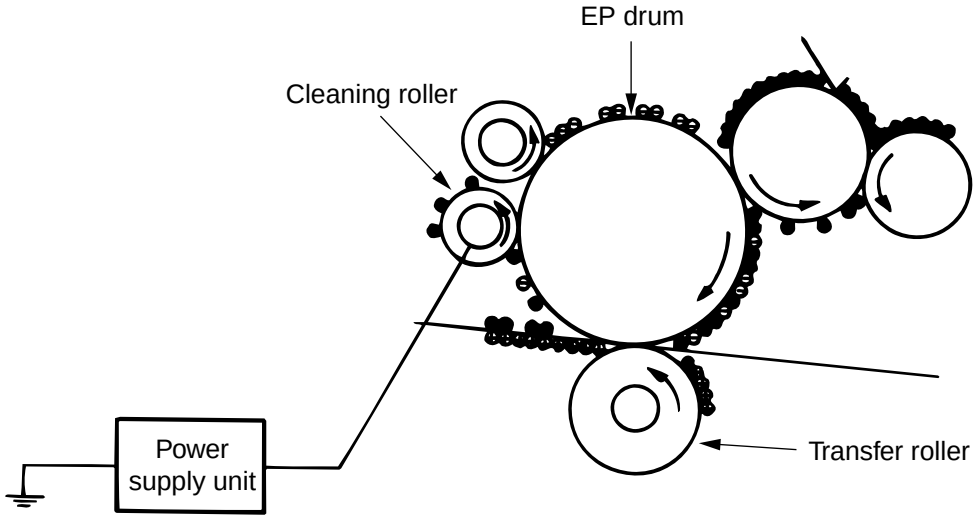
A thermister, which is in contact with the heater roller, regulates the heater roller at a predetermined temperature (about 185 ˚C for OKIFAX 5000 series). A safety thermostat cuts off voltage supply to the heater by opening the thermostat in the event of abnormal rise in temperature.

The back-up roller is held under a pressure of 2.5 kg by the pressure spring at each side.



7) Cleaning

After the end of the transfer, residual toner on the EP (image) drum is attracted to the cleaning roller temporarily by static electricity to clean the EP (image) drum surface.



8) Cleaning of rollers

The charge roller, transfer roller and cleaning roller are cleaned in the following cases:

- In warning up at power-on time
- In warning up after the cover is opened and closed
- When the number of accumulated sheets is 10 or more and the printout operation ends

Changes in bias voltage applied to each roller move adhesive toner from the roller to the EP (image) drum and return it to the developer.

	Cleaning "NO" (V)	Cleaning "YES" (V)
DB+	—	+300 V
DB-	-300 V	-300 V
TR+	+1000 V	+1000 V
TR-	—	-750 V
CB (cleaning)	+400 V	+400 V
CH-	-1350 V	-1350 V

3. Errors

3.1 Errors List

The errors are listed below.

1) Major trouble errors
   - Fuser error
   - Fan error
   - Paper supply error
   - Paper transport system error
   - Paper exit jam
   - Paper size error
   - 2'nd tray communication error
   - Cover open

2) Recoverable errors
   - 2'nd tray route open
   - No cassette in 2'nd tray
   - No paper in 1'st cassette
   - No paper in 2'nd cassette

3) Alarms (warning)
   - Low toner
   - Paper width error

Note: ***1.*** The major trouble errors do not recover after an error has been removed unless a reset is not performed.
2. A recoverable error resets automatically by itself once the cause of error has been removed. Printing is not possible while an error is existing.
3. The alarm serves as a warning only and the printing operation is performed.

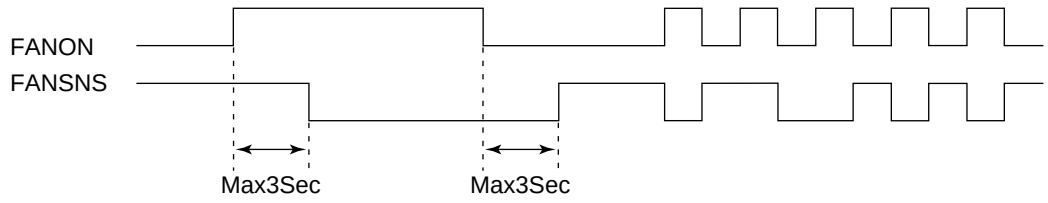
3.2 Major Trouble Errors

3.2.1 Fuser Error

The fuser error indicates an error in thermister on heater.
In case the fuser error occurs at the time of printing, the heater is turned off soon but the printing continues of that page.
However, if the error occurs before the write sensor is turned on, the motor stops soon.

3.2.2 Fan Error

The fan error is generated when the FANSNS signal lead goes "1" while the fan is running at full speed. Operation of the FANSNS signal when the fan is turned on is described below.



Since the fan alarm is not monitored during printing, the fan alarm does not appear from the moment the printing is started until the completion of printing operation.
In other words, the printing will continue even if the fan alarm occurs during printing.

3.2.3 Paper Feed Monitoring

Status	Description and Supervising Sensor	Distance
Paper supply error	Indicates monitoring error in hopping. Hopping is retried 3 times.	118 mm or less path Length +36 (hopping) × 3
Transport system jam 1	Indicates an error in the paper transport path. Error on resist roller section. From resist ON to write sensor (PS2) ON.	30 mm or less Inlet ~ write +20
Transport system jam 2	From inlet sensor OFF up to write sensor OFF.	44 mm or less
Transport system jam 3	Indicates an error in the paper transport system. Error of transfer roller and/or heat roller. From write sensor ON to outlet sensor ON.	207 mm or less Write ~ outlet +69
Paper size error	Indicates paper size other than specified one. From resist ON to inlet sensor OFF.	Recording paper +/- 45 mm
Paper outlet jam 1	Supervises slipping of the recording paper. From outlet sensor ON to OFF.	Recording paper +/- 45 mm
Paper outlet jam 2	Supervises jamming at the near paper outlet. From outlet sensor ON to OFF. When a crumpled recording paper is detected, the outlet sensor is set to "OFF" earlier than usual.	135 mm or less: NG

3.2.4 2'nd Tray Communication Error

This error is generated if on sending a command to the 2'nd tray is returned no-status (40s) or an undefined status. However, in case there is no status when reset, it will be considered that the 2'nd tray is not mounted.

3.2.5 Cover Open

Cover open sensor "0" indicates an open cover.
When the cover is closed the CU (control unit) section sends the reset signal and processes in the same way as if the power has been turned on.

3.3 Recoverable Errors

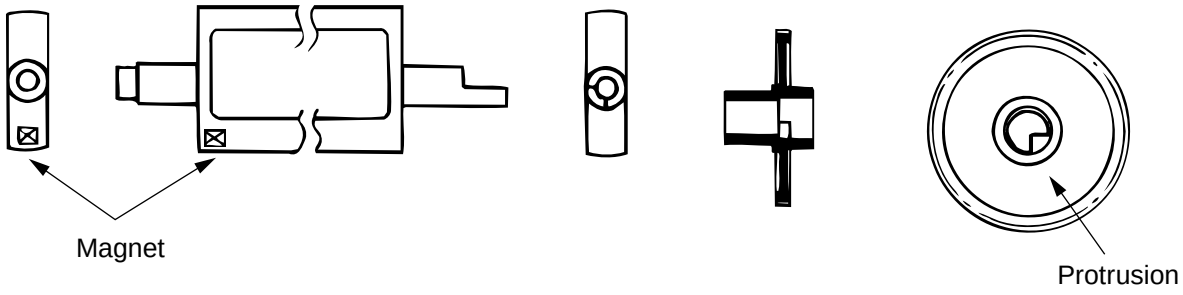
The three recoverable errors are listed in the table below.

Status	Description and Supervising Sensor
2'nd tray route open	Paper supply route from the option 2'nd tray to the main body is open, recording paper of the 1'st tray is being replaced.
No paper in 1'st cassette	No paper has been detected by the 1'st tray's paper sensor. No paper has been detected by paper sensor in "1" state.
No paper in 2'nd cassette	Response from the option tray indicated no paper in 2'nd tray.

3.3.1 Toner Low Detection

- Composition
  The device consists of the stirring gear which rotates at a constant rate, the stirring bar and the magnet on the stirring bar. The stirring bar rotates through the link on the protrusion in the stirring gear.

  The configuration of stirring bar in the figure below may differ. The principle of toner detection, however, remains the same.

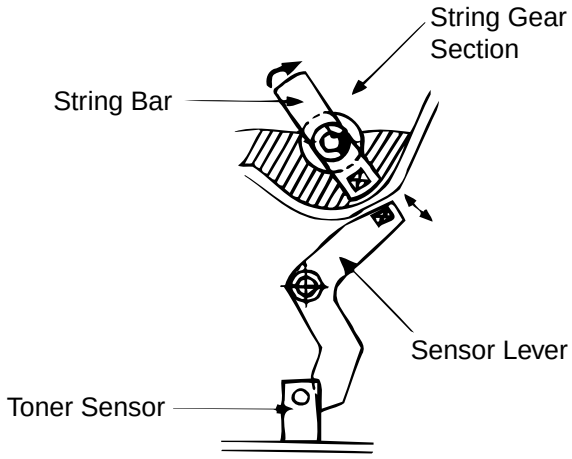


Stirring Bar Stirring Gear

- Operation
  Toner Low is detected by monitoring the time interval between the encounter of the magnet set on the sensor lever and the magnet on the stirring bar.

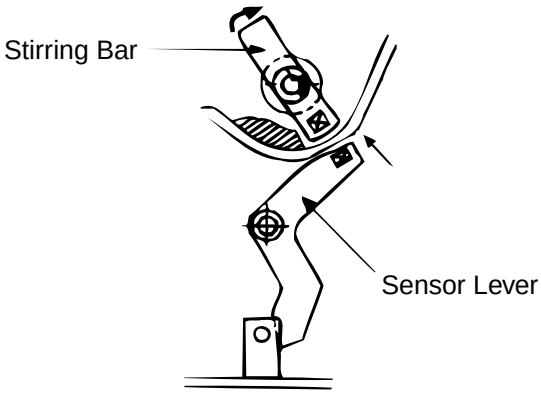
Operation during toner full state

- The stirring bar rotates due to interlocking with the stirring gear.
- Even when the magnet on the stirring bar reaches the maximum height, since theother side is being dipped in the toner, the stirring bar is pushed by the stirring gear.



Operation during toner low state

- When the stirring bar reaches the maximum height, since there is no resnstance provided by the toner on the other side, it falls to the minimum height due to its own weight. Because of this, the time interval during which it is in encounter with themagnet of the sensor lever becomes long. By monitoring this time interval, toner low can be detected.

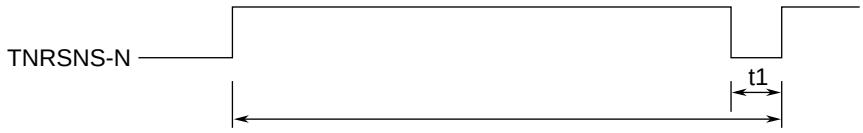


Low Toner Alarm

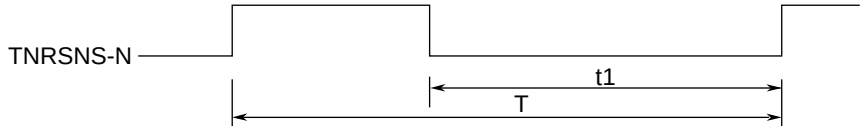
A check for low toner is carried out at all times when the drum is rotating (rotation in opposite direction is excluded).

- The toner sensor is not monitored while the drum motor is in halt.

TONER FULL state



TONER LOW state



- When the toner low state is detected 2 times consecutively, Toner Low is established.
- When the toner full state is detected 2 times consecutively, Toner Low is cancelled.
- When there is no change with the toner sensor for 2 cycles (6.5 sec. x 2) or more, then the Toner Sensor Alarm is activated.

Printing Speed	T	t1 (Toner Exists)	Remarks
8 ppm	3.2 sec.	0.16 ~ 1.00 sec.	

4. Other Special Cases

4.1 Manual Paper Feed

Turning on of the inlet sensors without the hopping operation indicates manual paper feeding for FX-060VP (excluding when power is on).

4.2 Cleaning

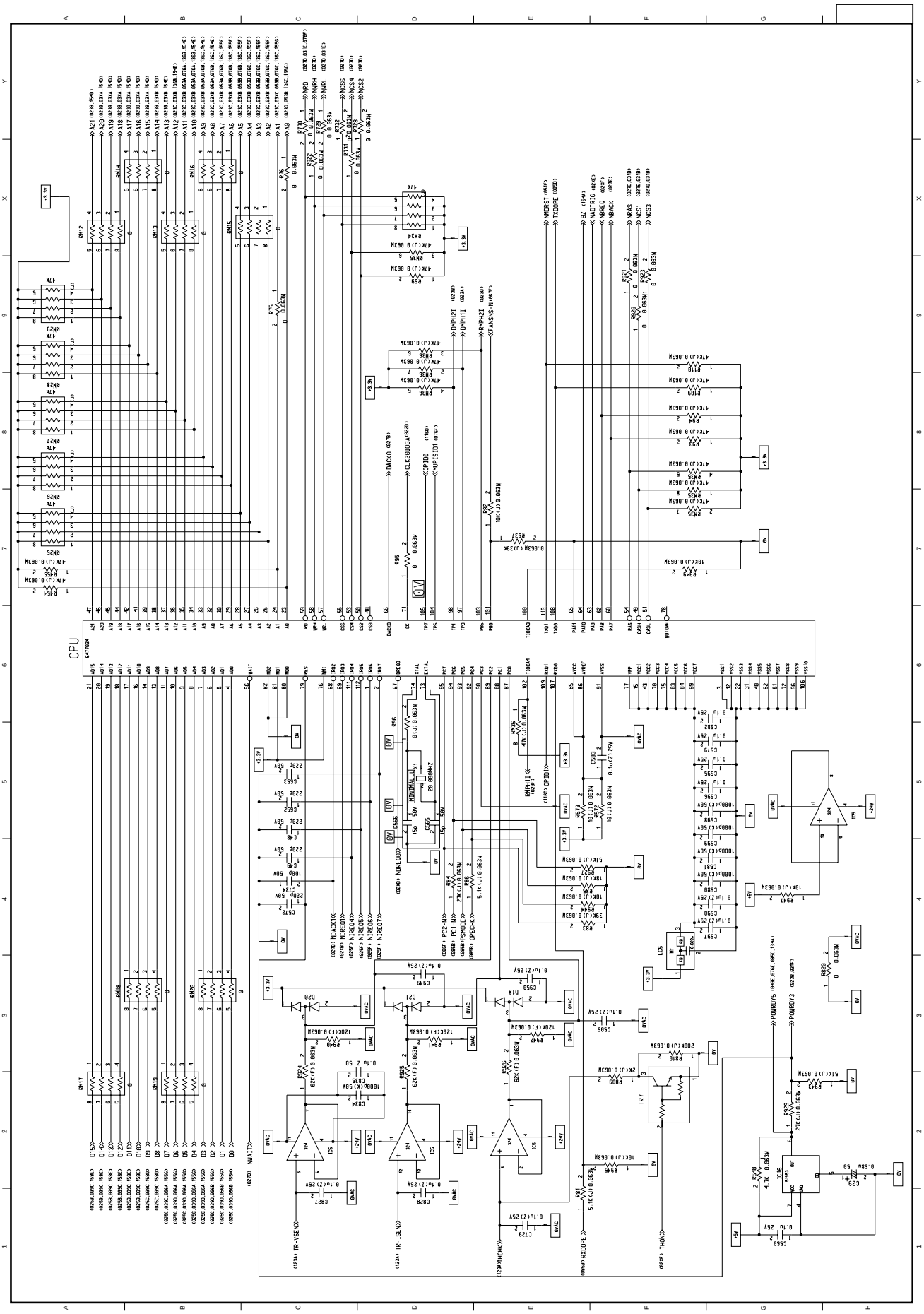
The image drum needs cleaning since it gets dirty after having printed copies for a number of times.

The two kinds of cleaning are listed in the table below:

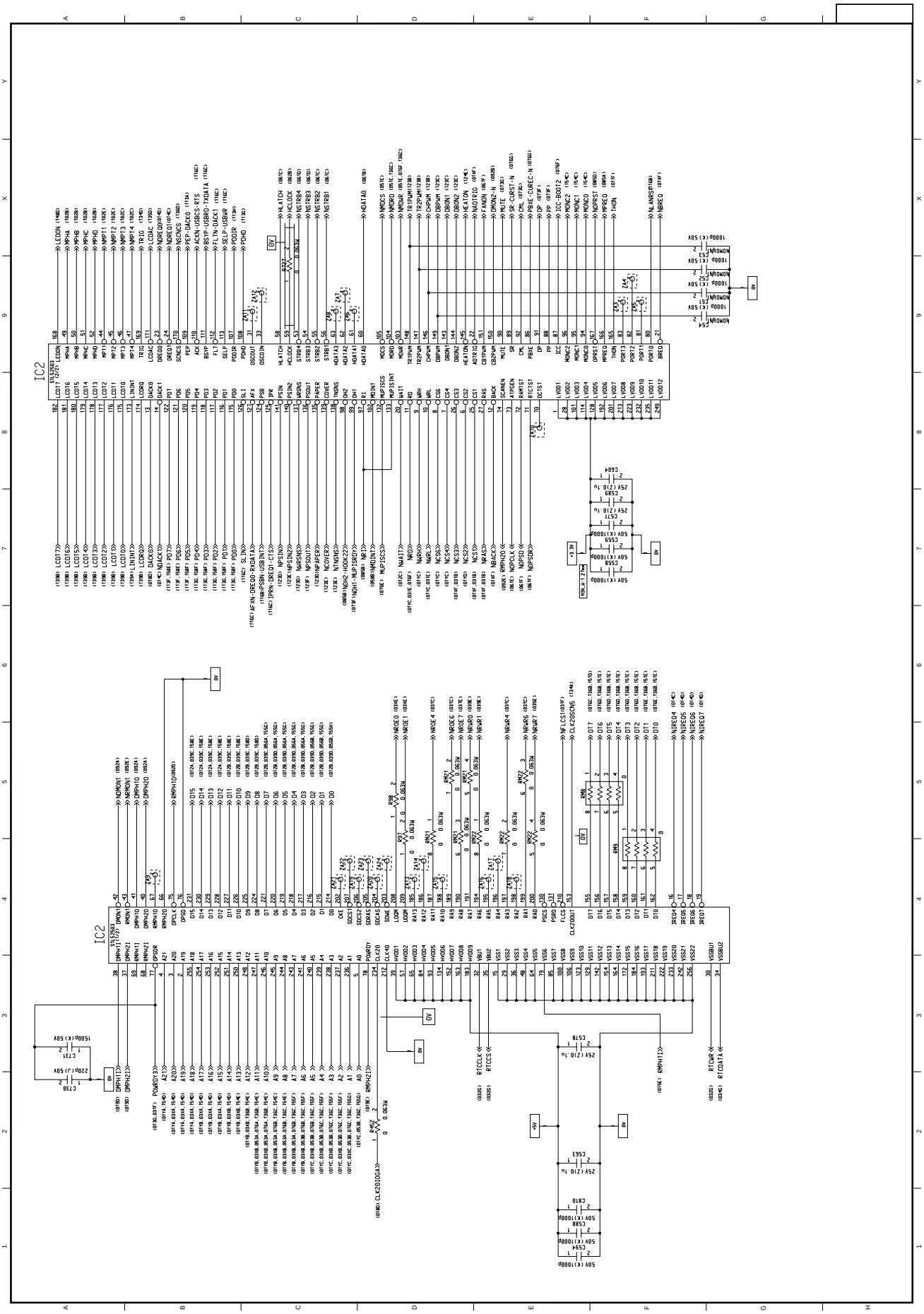
Cleaning Type	Function	Remarks
Cleaning	This cleaning removes the toner whose electric potential is reversed due to poor electrification, or removes the toner whose electric potential is insufficient on the image drum surface. (Recovery of the toner to developing roller)	Cleaning is performed when the number of prints exceed 10 sheets or the one-job operation ends. (At the end of communication or copy operations)
CH (charge roller) cleaning	This cleaning removes the residual toner on the charging roller surface. The toner is removed by moving to the recording paper from charging roller and image drum.	User operation

APPENDIX C CIRCUIT DIAGRAMS AND BLOCK DIAGRAMS

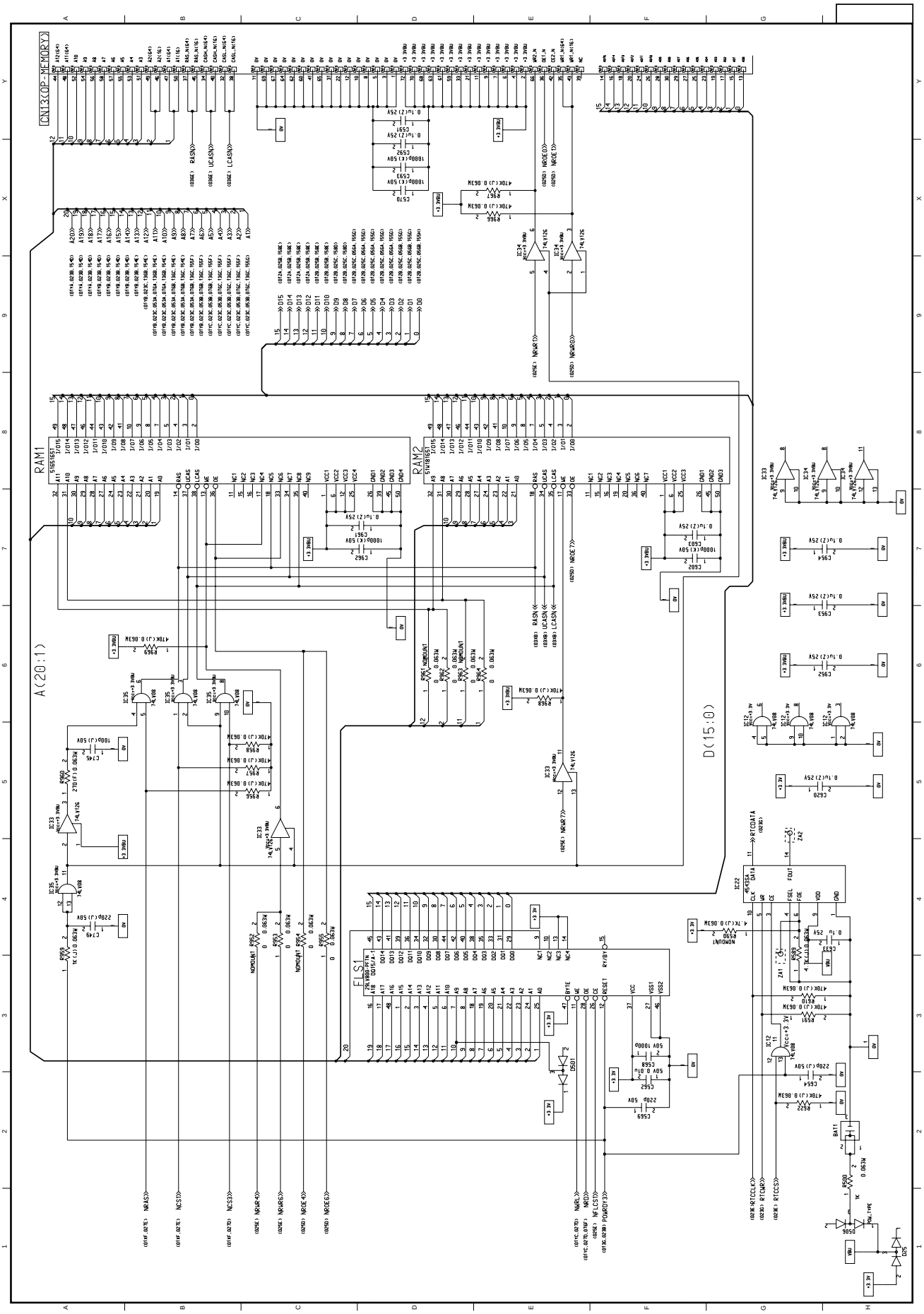
V60-PCB Circuit Diagram (1/15~15/15)	(41989201SS)
P60-PCB Circuit Diagram (1/2~2/2)	(41178601SS)
MPW1561 POW(120VAC) Circuit Diagram (1/1)	(S1PS1433)
MPW1461 POW(230VAC) Circuit Diagram (1/1)	(S1PS1432)
H08-PCB Circuit Diagram (1/1)	(41144801SS)
RA1-PCB Circuit Diagram (1/1)	(40691901SS)
TQSB-PCB Circuit Diagram (1/1)	(3SS5505-3362Z001)
CT2-PCB Circuit Diagram (1/1)	(42161601SS)
EN2-PCB Circuit Diagram (1/2~2/2)	(42310801SS)
INU-PCB Circuit Diagram (1/1)	(41144501SS)
G4N-PCB Circuit Diagram (1/7~7/7)	(41033701SS)
ICP-PCB Circuit Diagram (1/1)	(42161801SS)



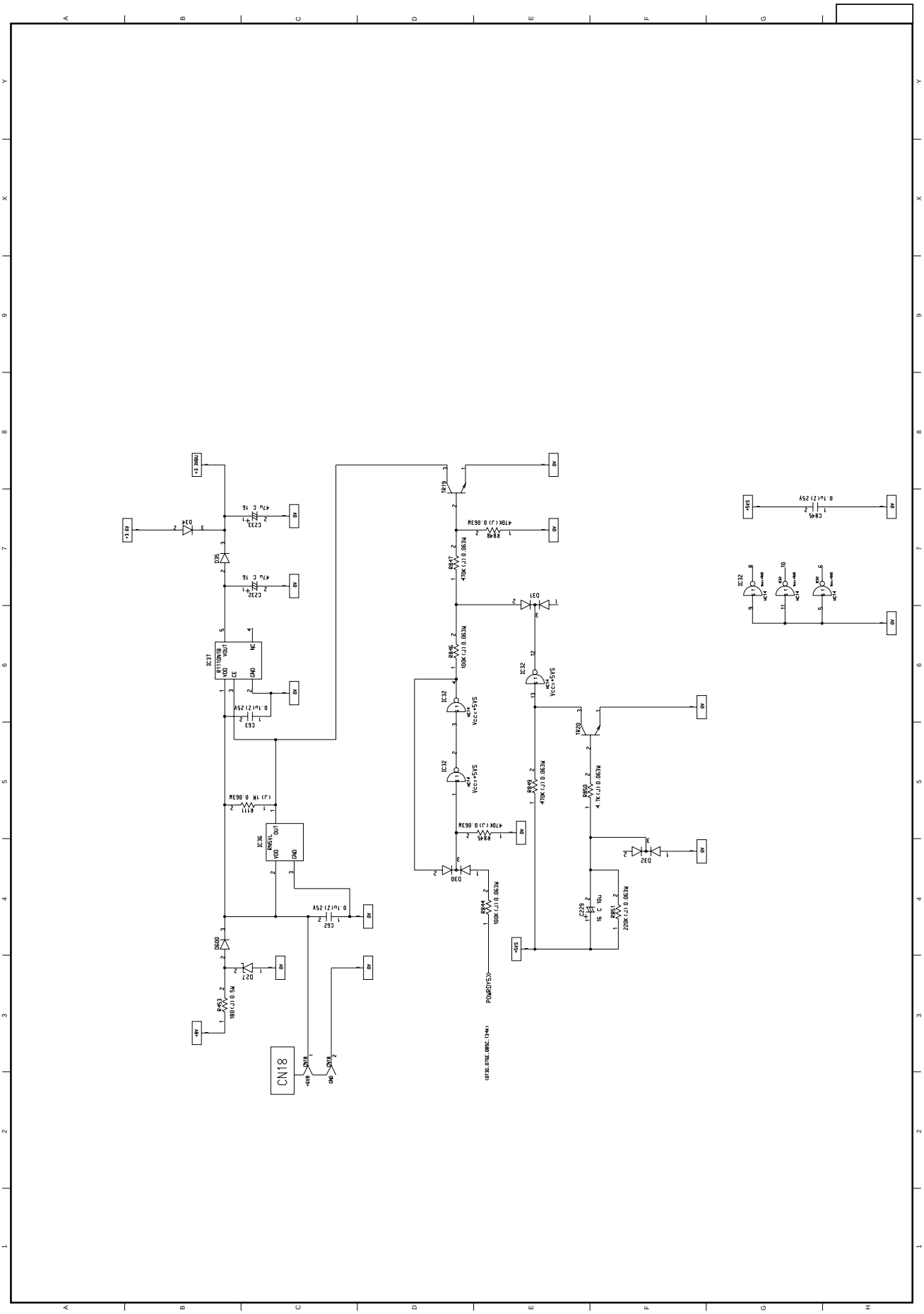
V60-PCB Circuit Diagram (1/15)
(41989201SS)



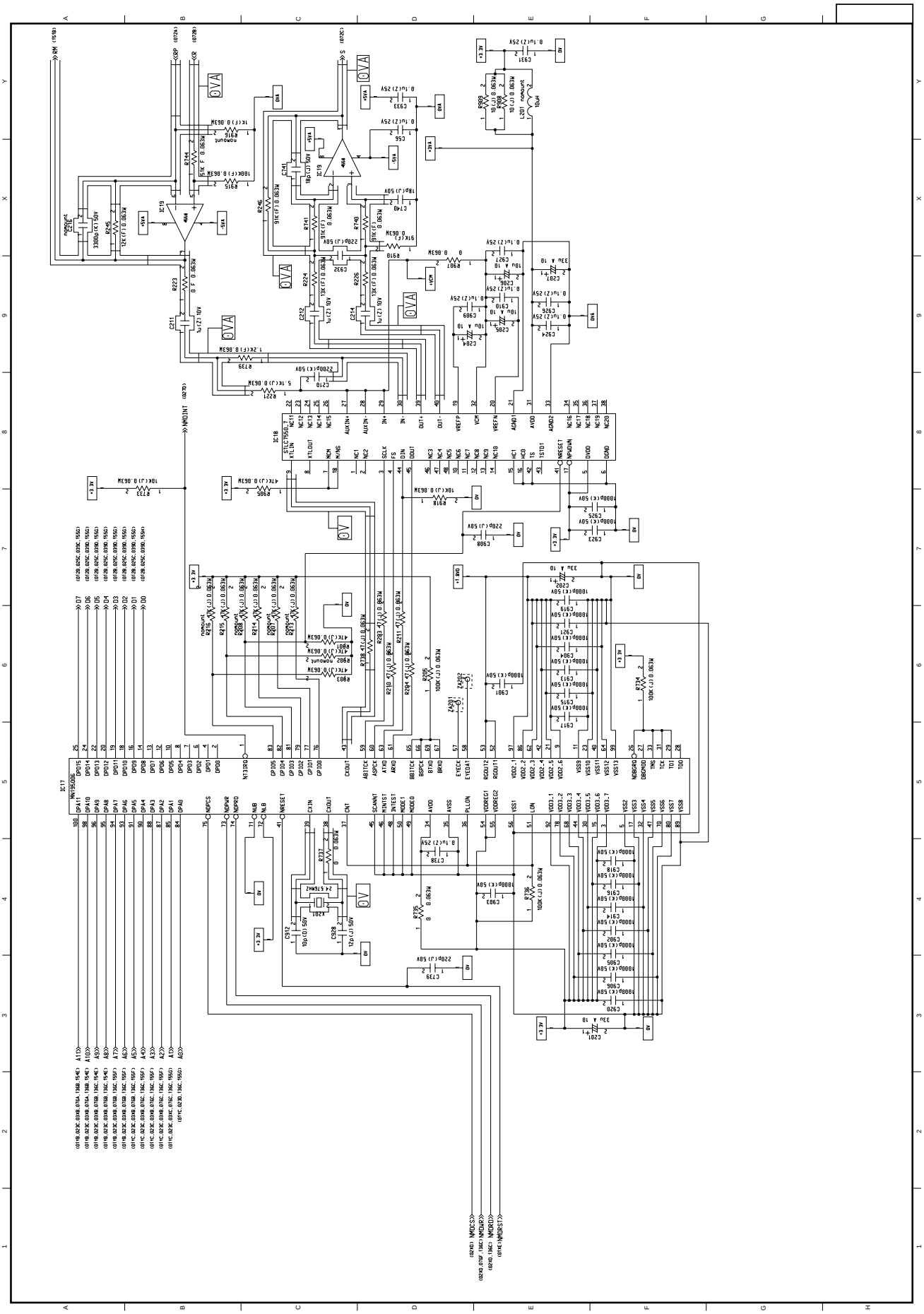
V60-PCB Circuit Diagram (2/15)
(41989201SS)



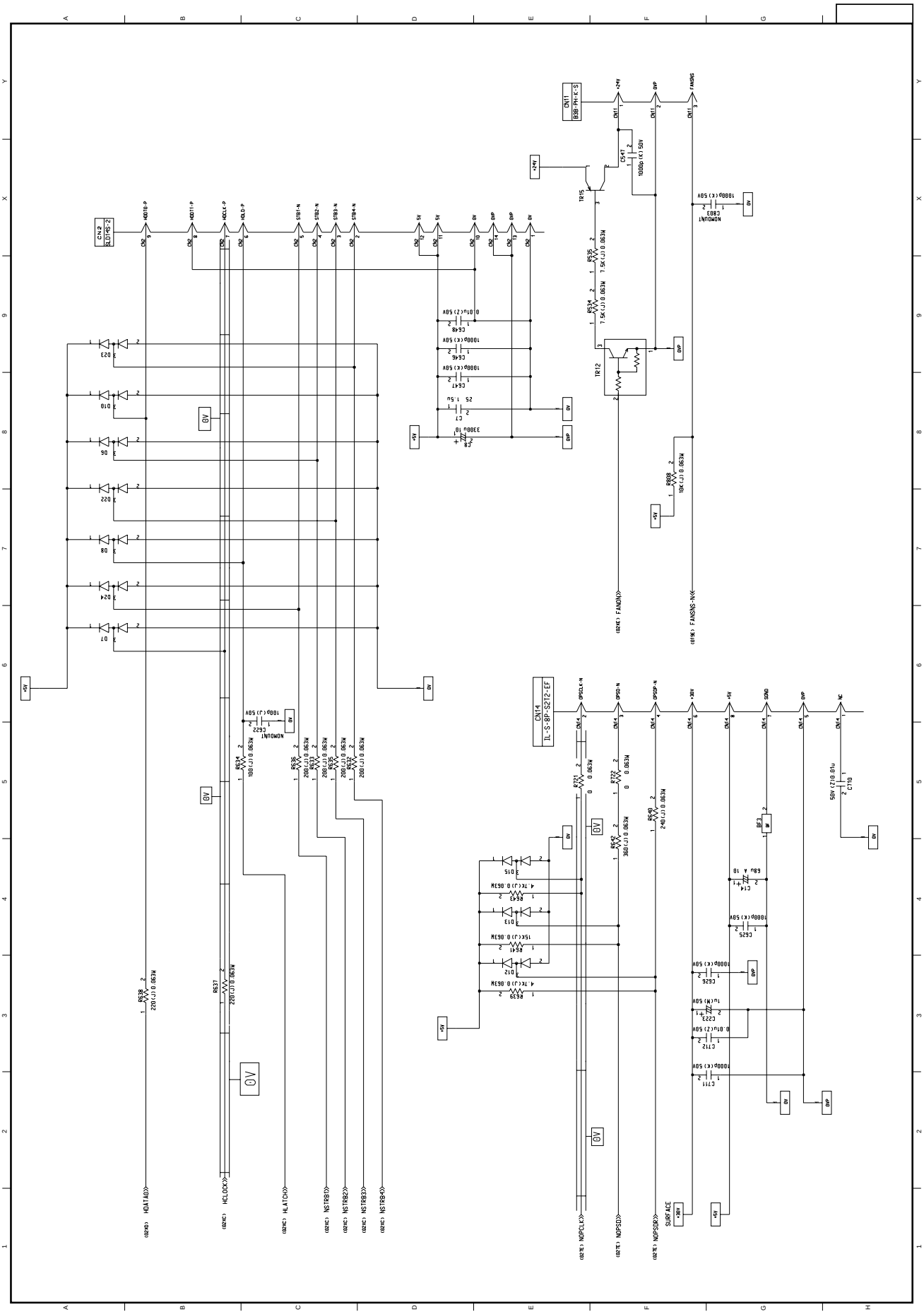
V60-PCB Circuit Diagram (3/15)
(41989201SS)



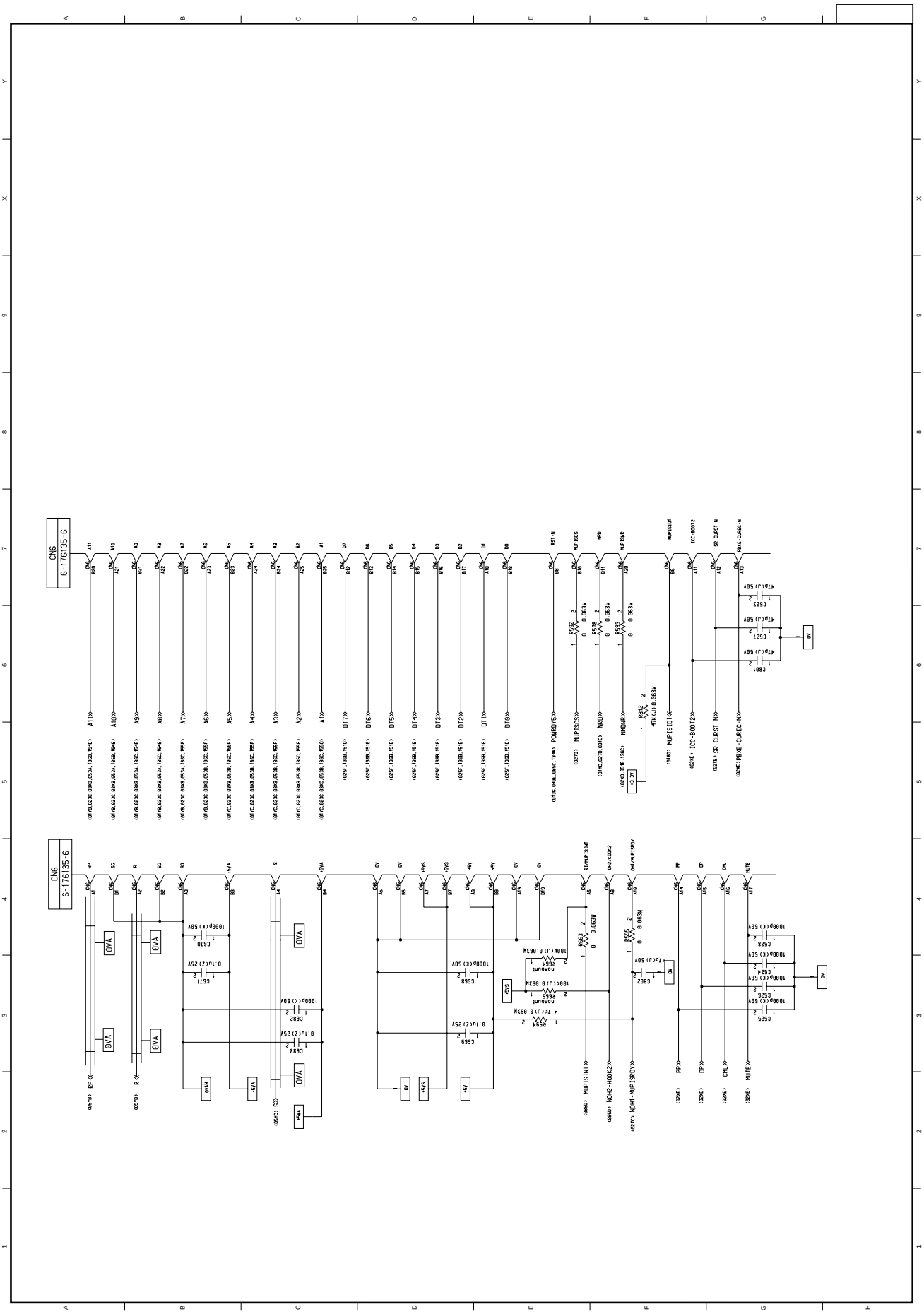
V60-PCB Circuit Diagram (4/15)
(41989201SS)



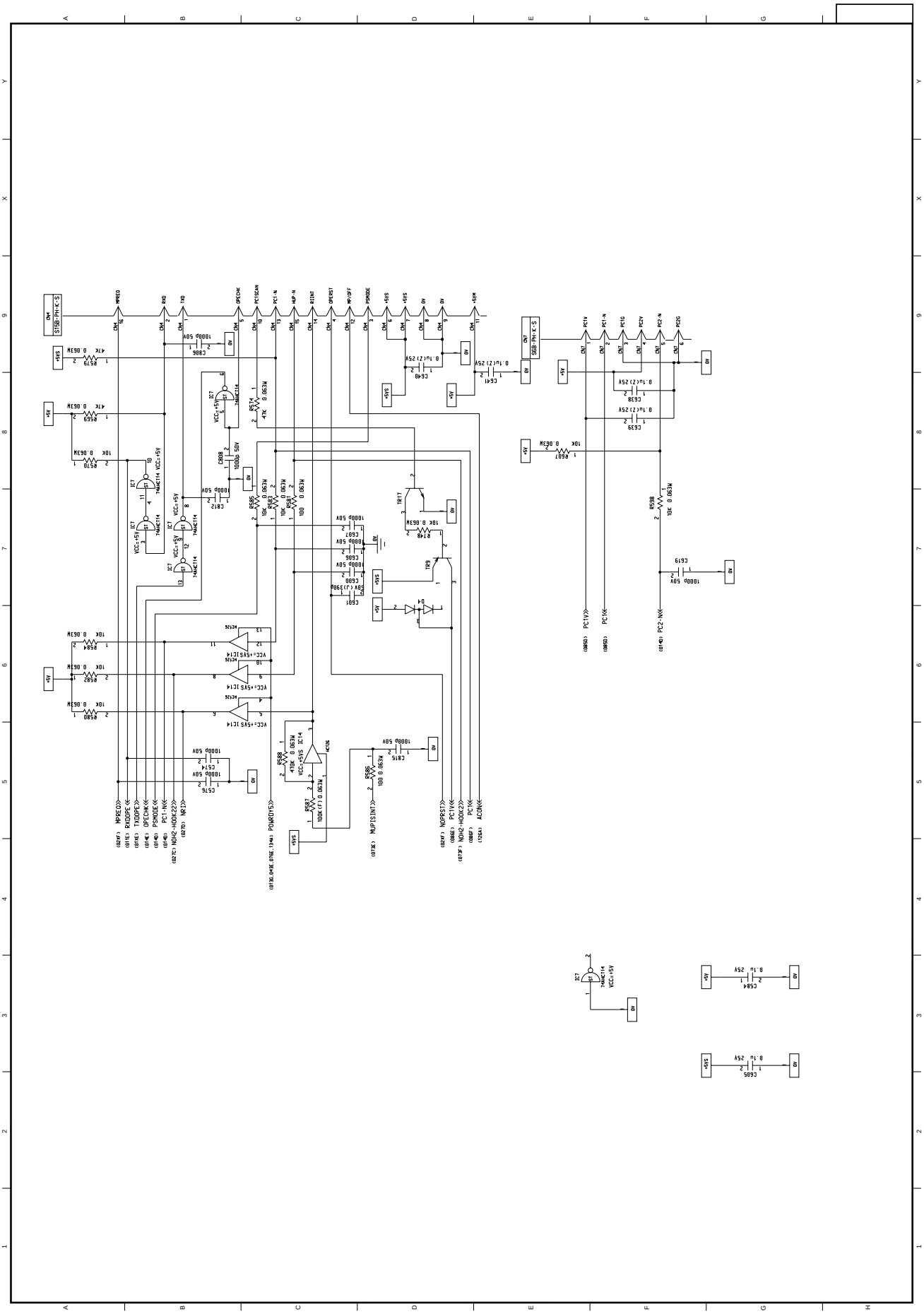
V60-PCB Circuit Diagram (5/15)
(41989201SS)



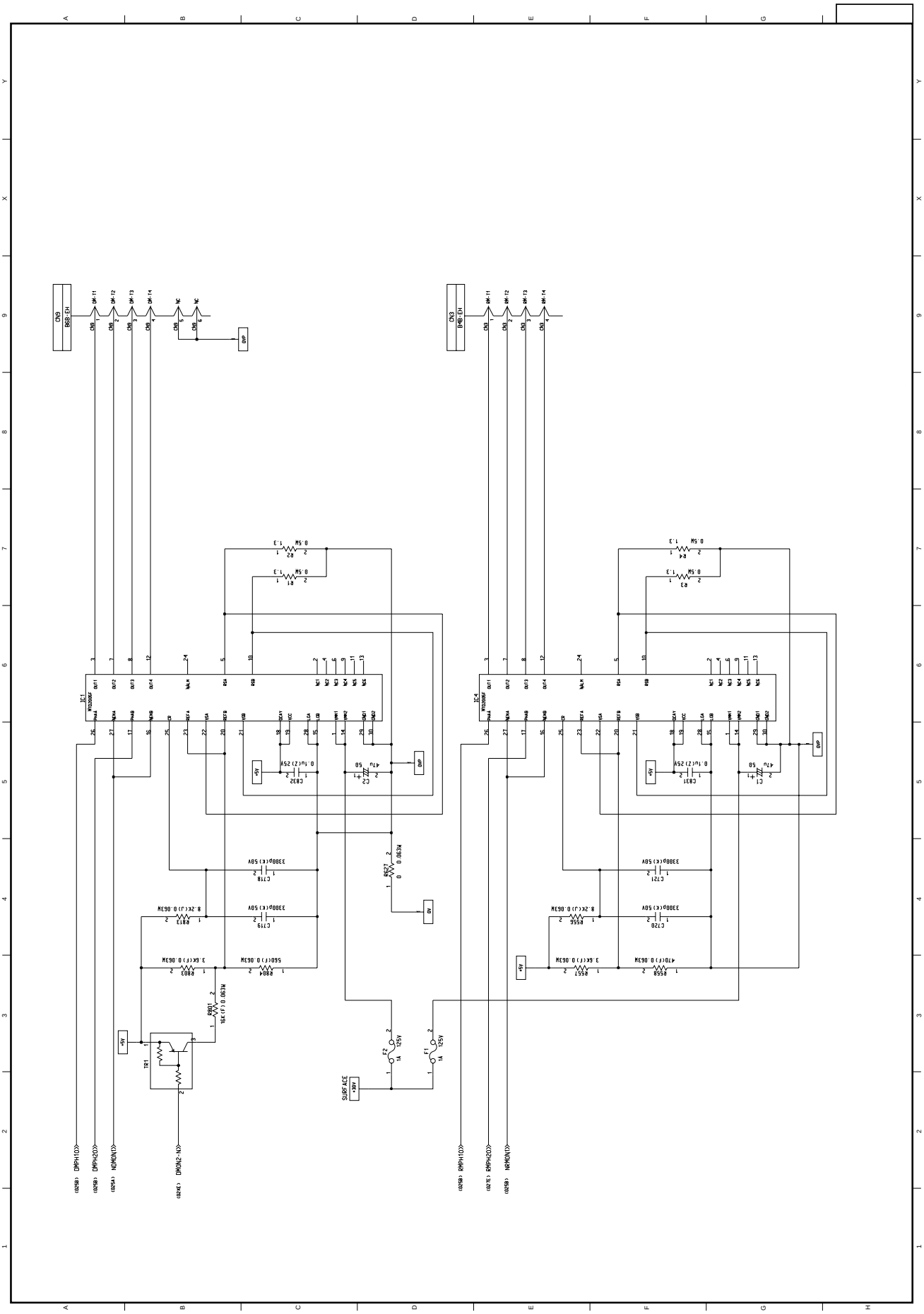
V60-PCB Circuit Diagram (6/15)
(41989201SS)



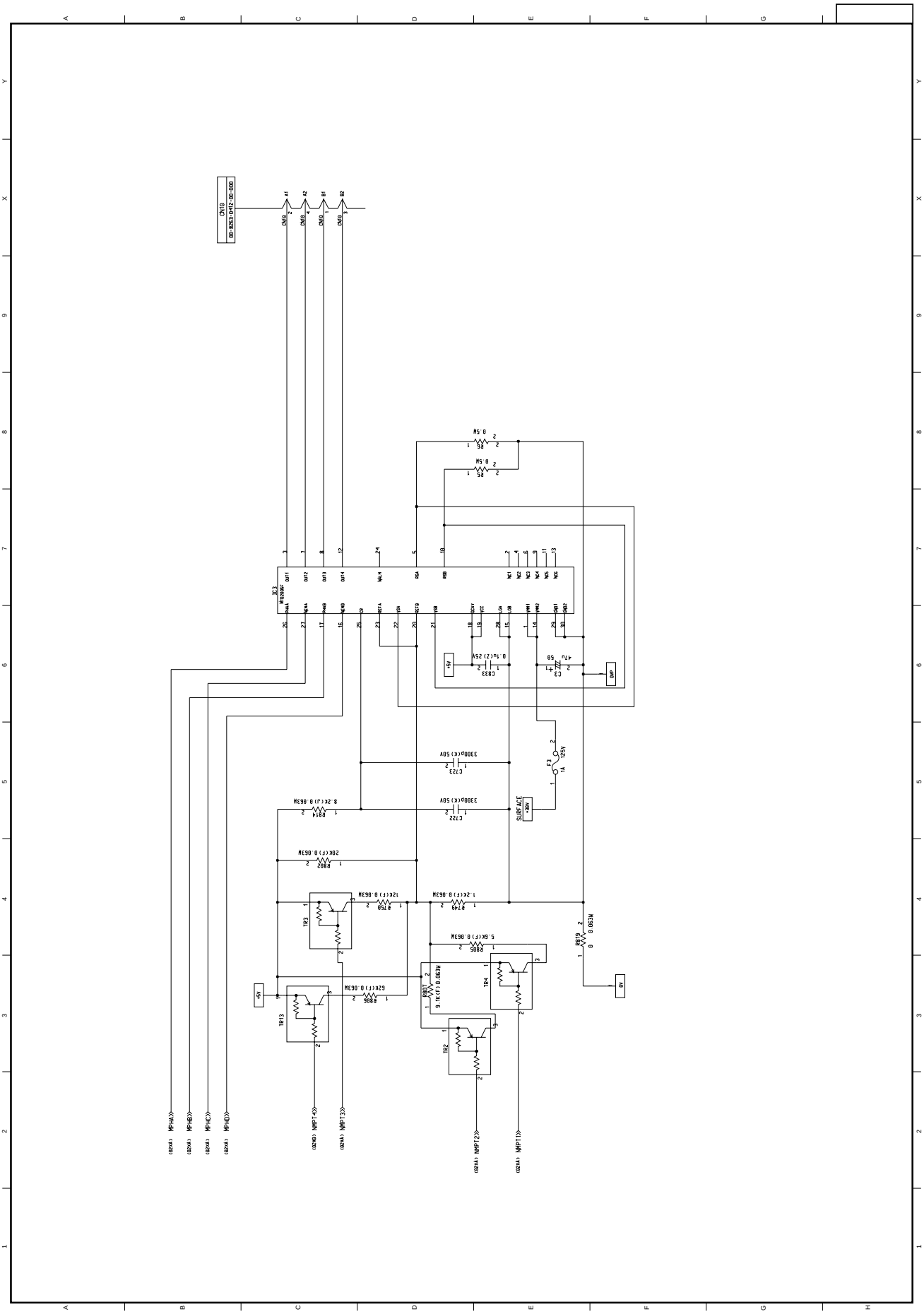
V60-PCB Circuit Diagram (7/15)
(41989201SS)



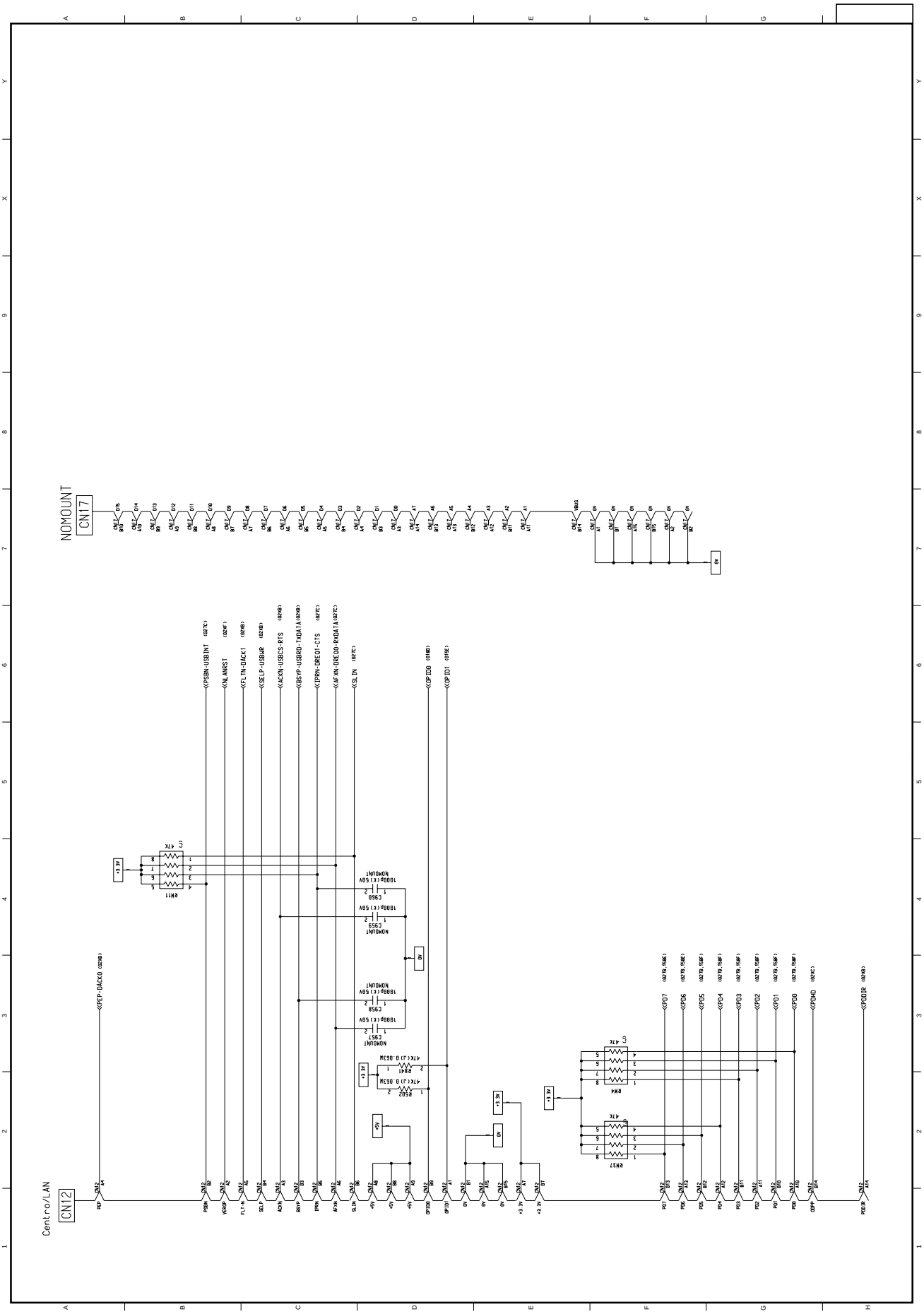
V60-PCB Circuit Diagram (8/15)
(41989201SS)



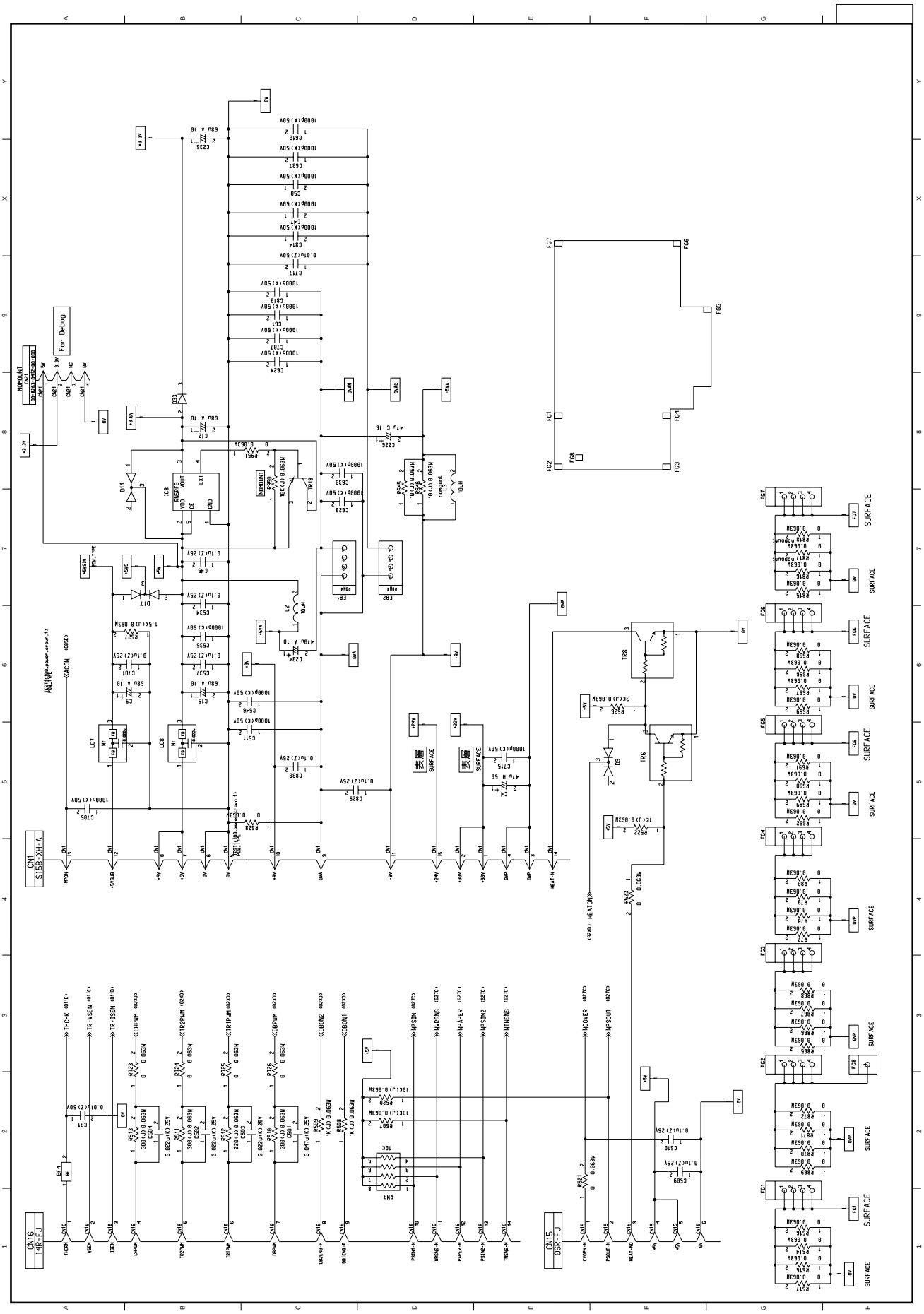
V60-PCB Circuit Diagram (9/15)
(41989201SS)



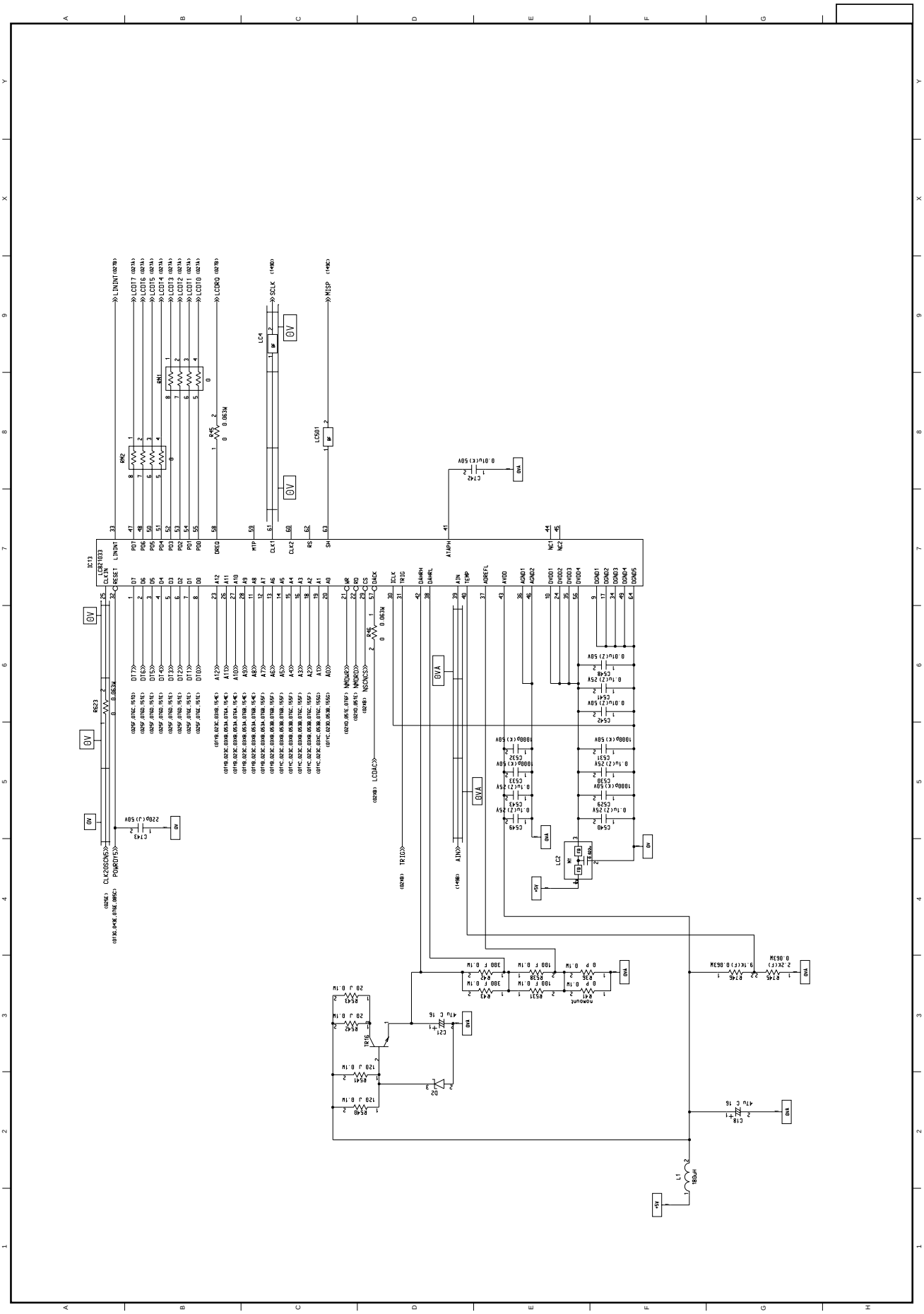
V60-PCB Circuit Diagram (10/15)
(41989201SS)



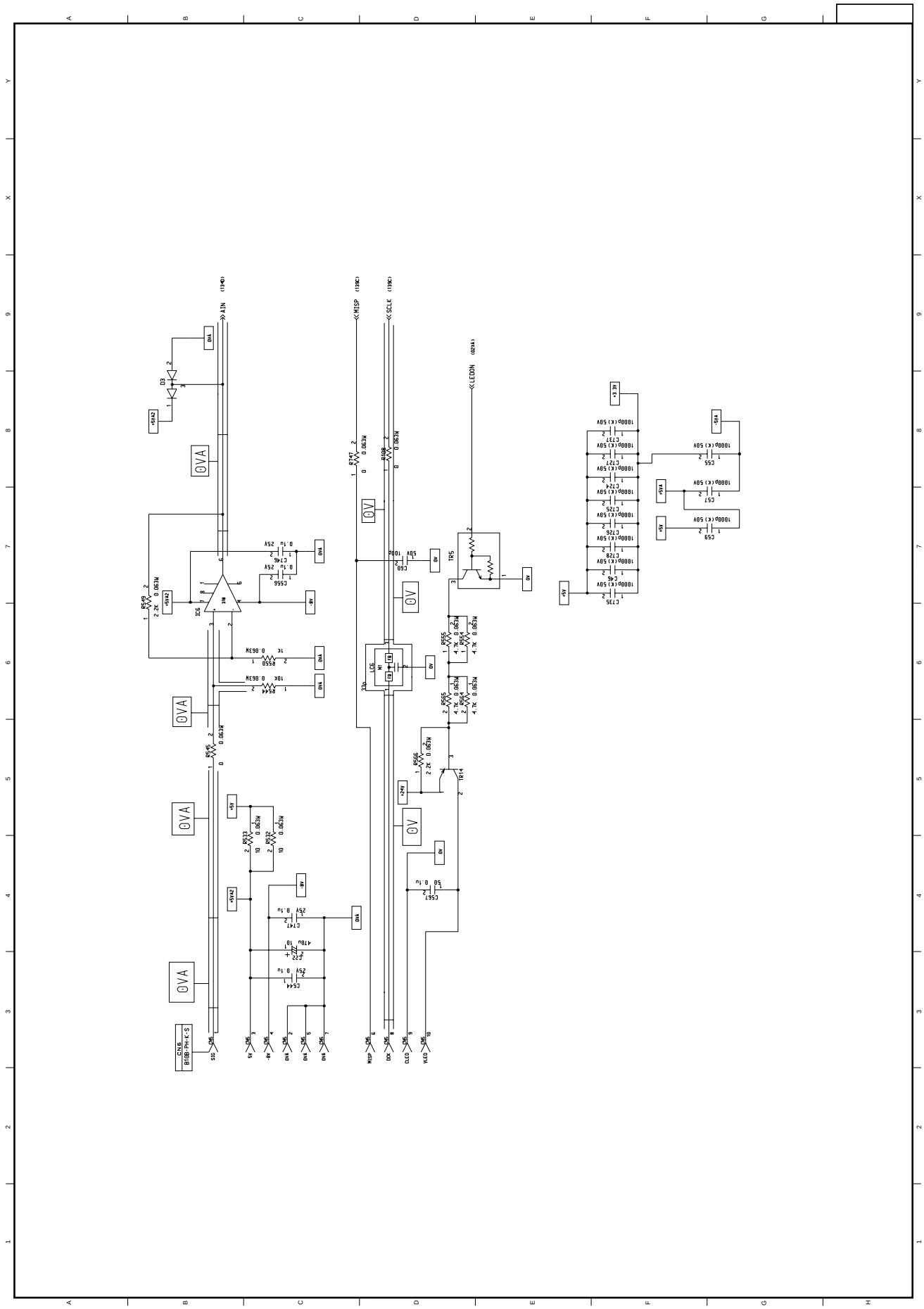
V60-PCB Circuit Diagram (11/15)
(41989201SS)



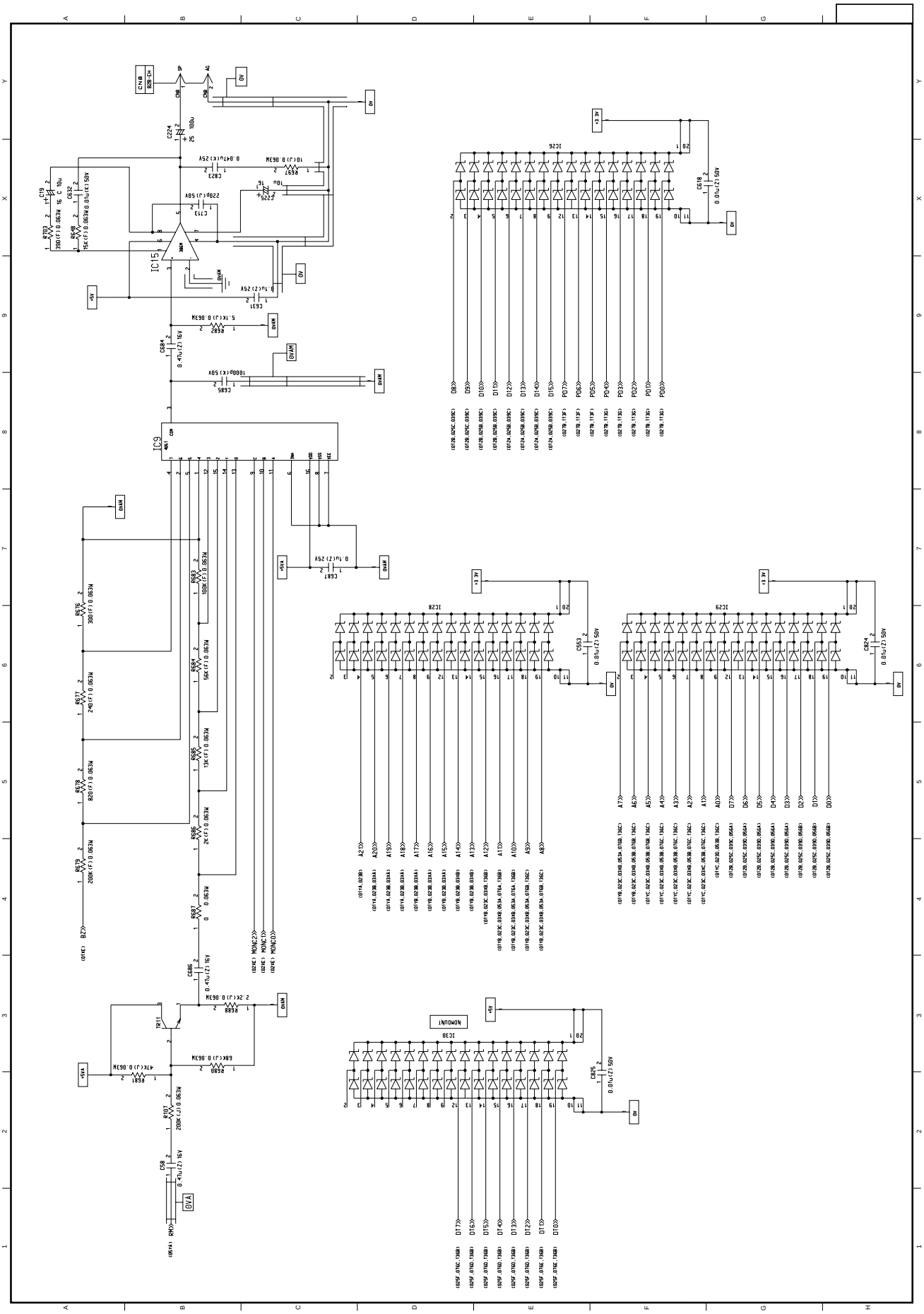
V60-PCB Circuit Diagram (12/15)
(41989201SS)



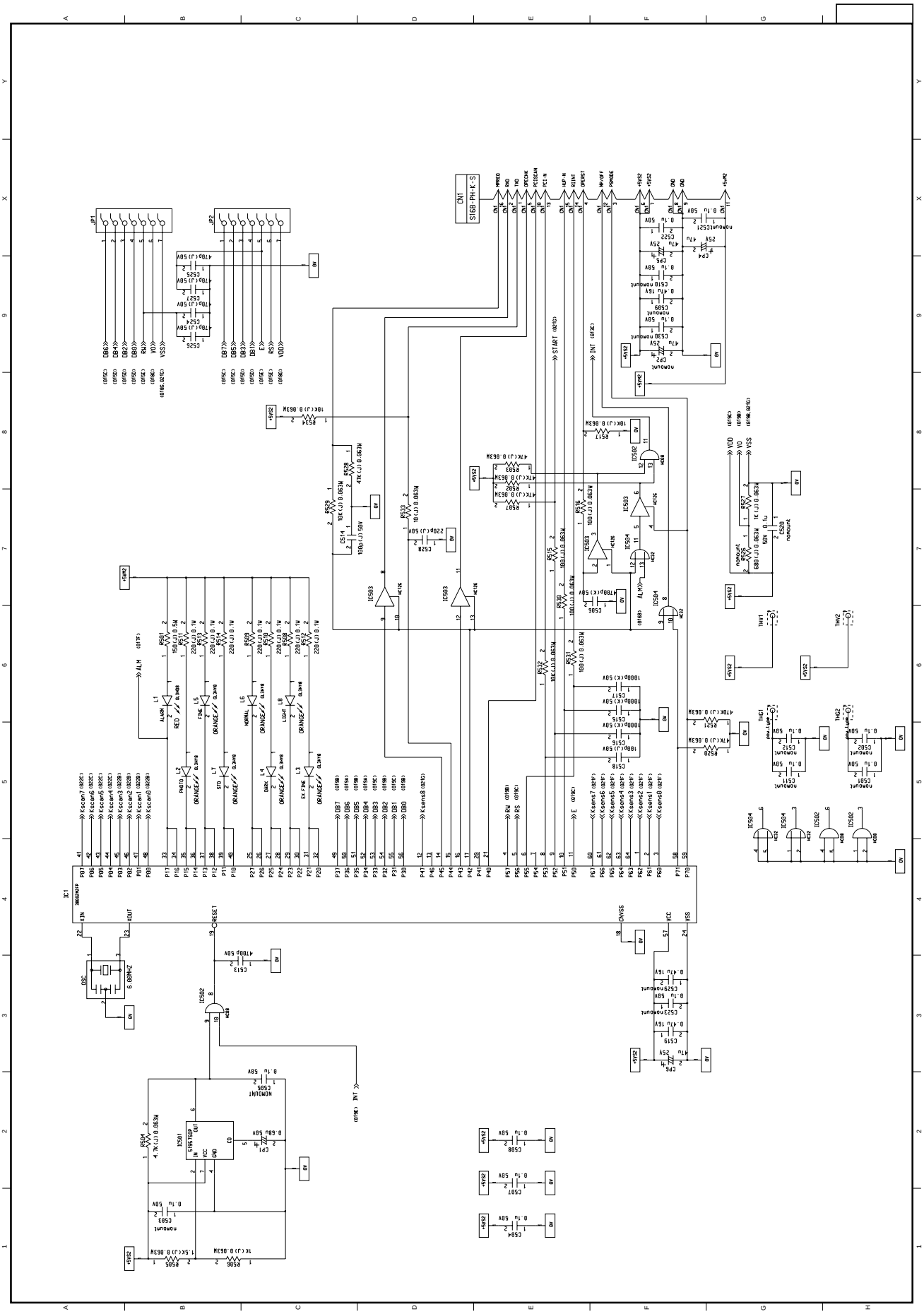
V60-PCB Circuit Diagram (13/15)
(41989201SS)



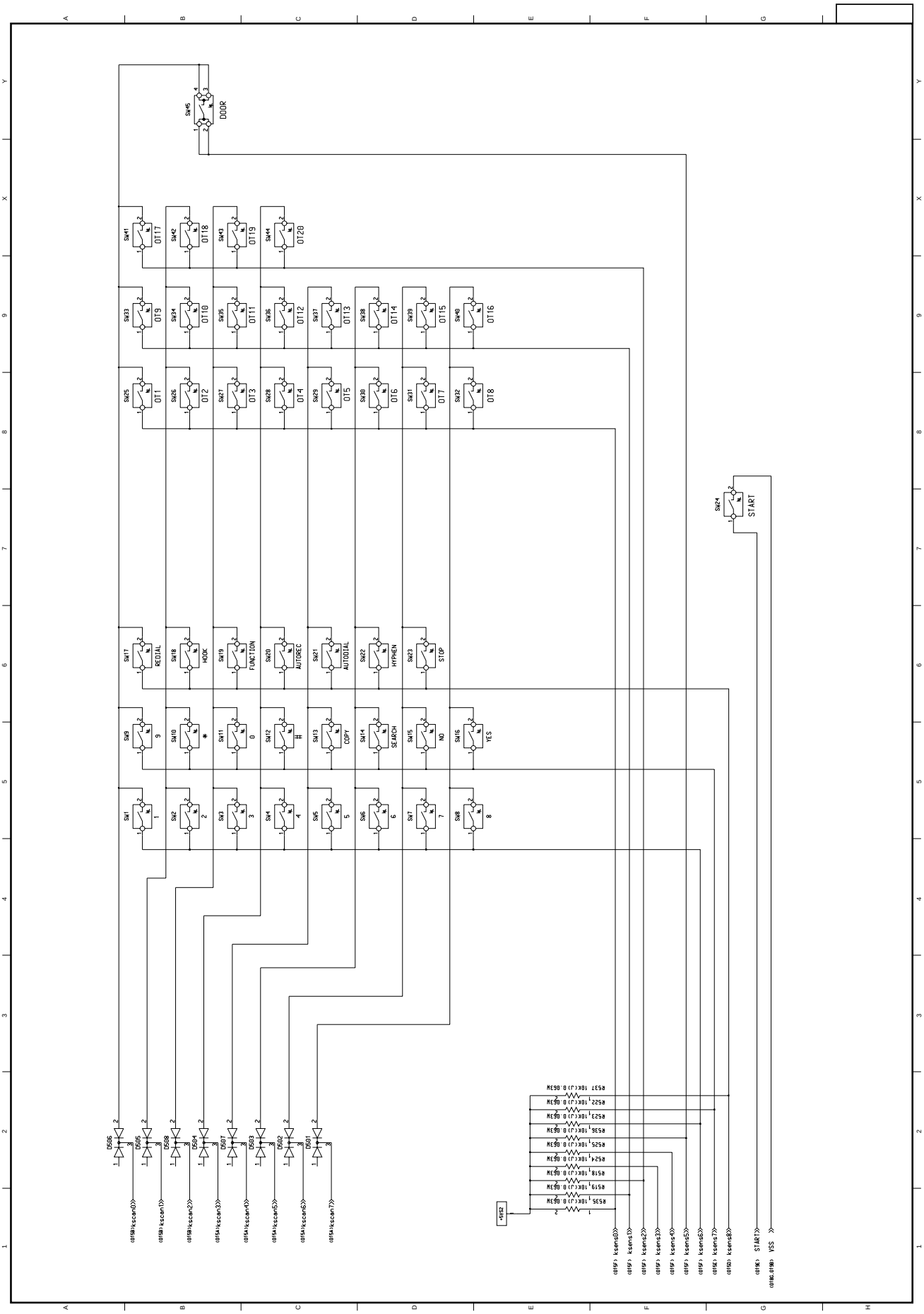
V60-PCB Circuit Diagram (14/15)
(41989201SS)



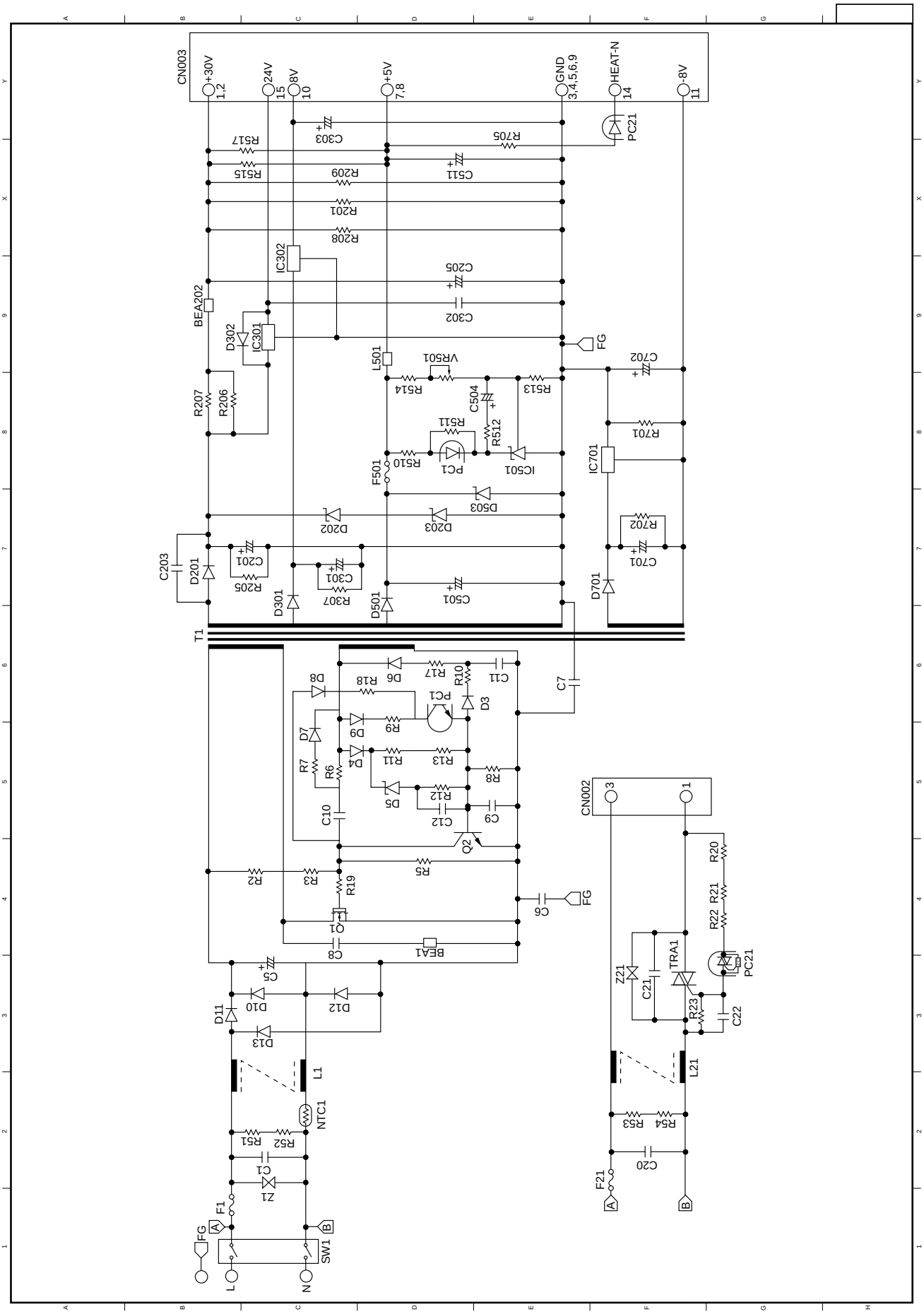
V60-PCB Circuit Diagram (15/15)
(41989201SS)



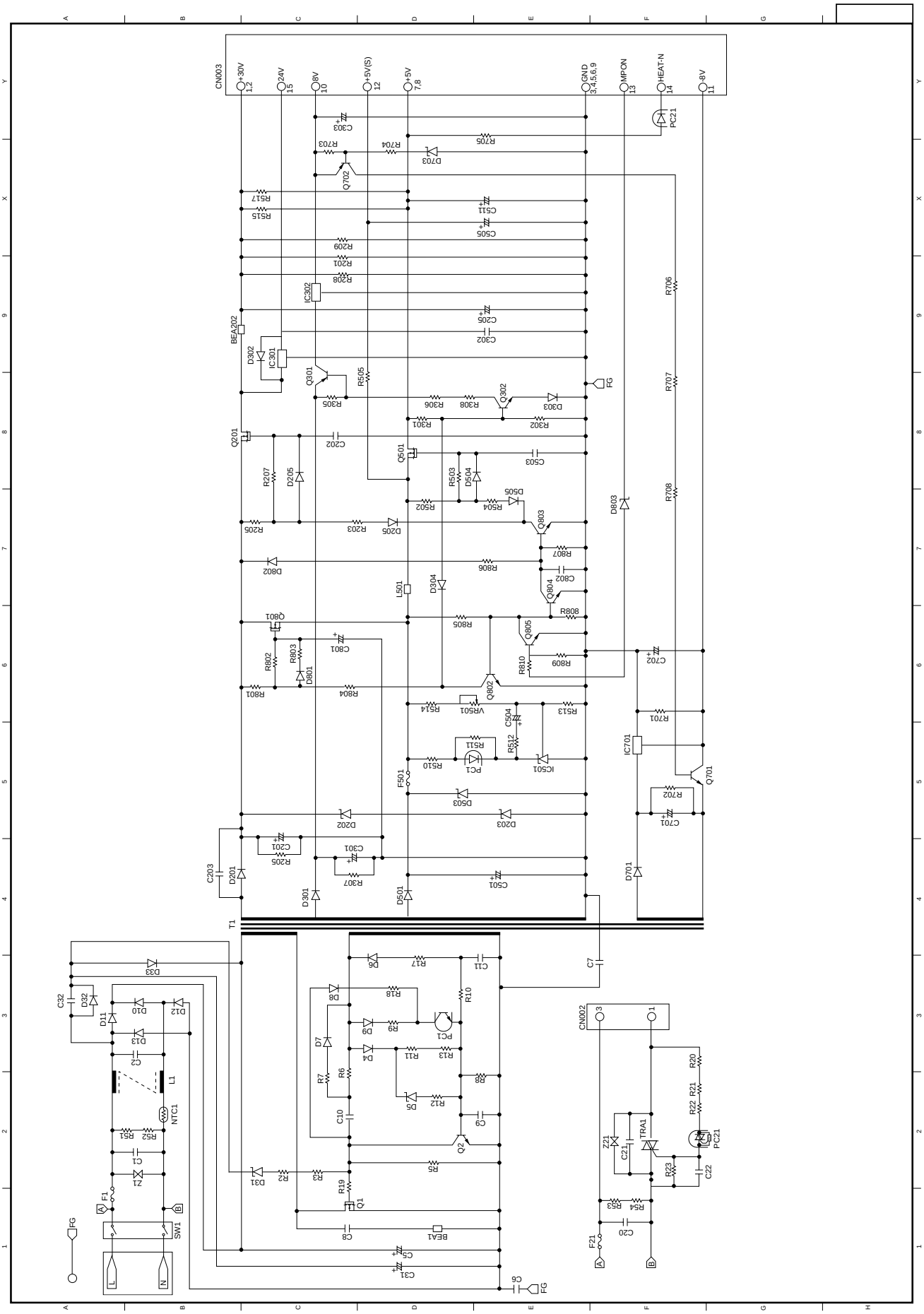
P60-PCB Circuit Diagram (1/2)
(41178601SS)



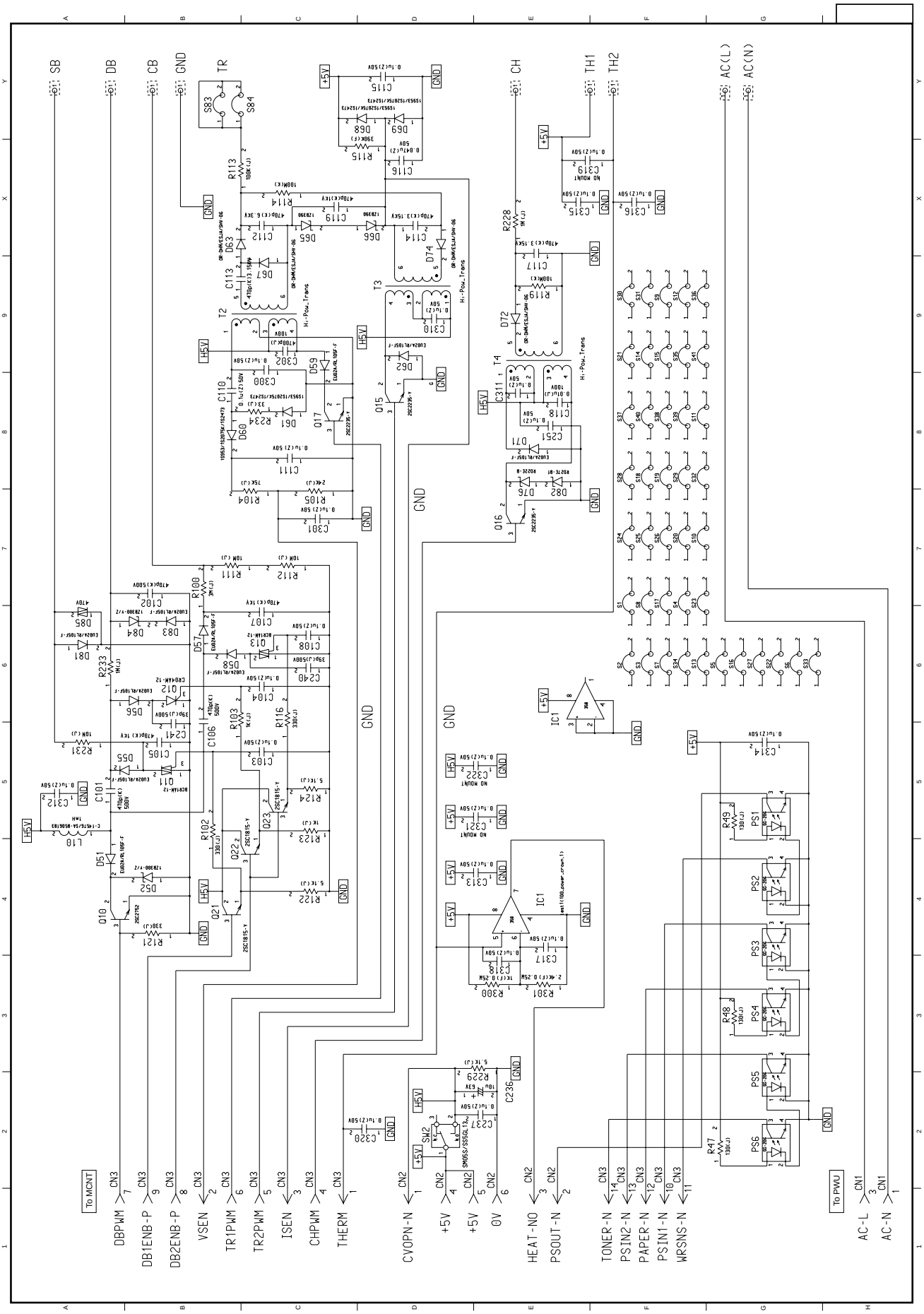
P60-PCB Circuit Diagram (2/2)
(41178601SS)



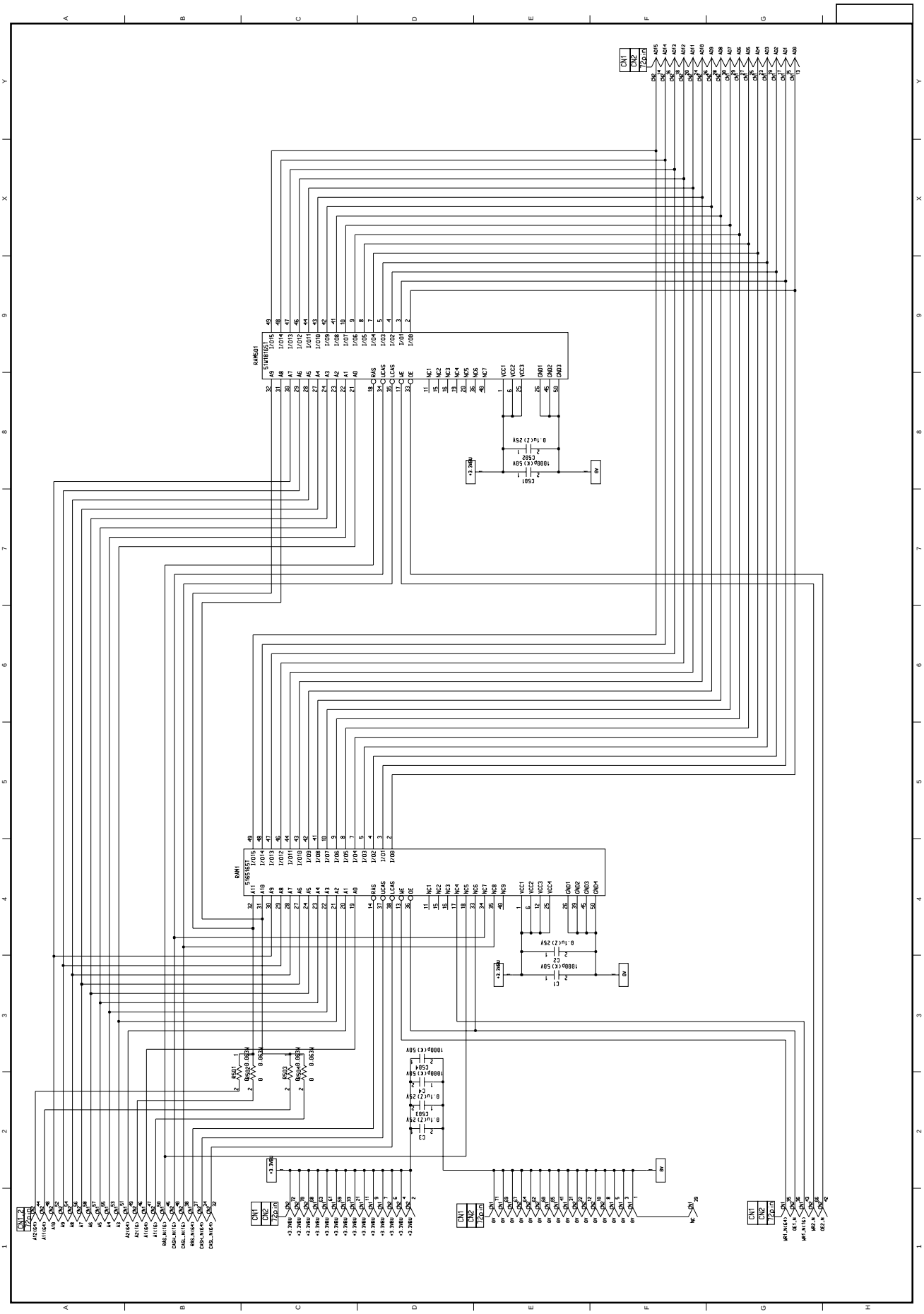
MPW1561 POW (120VAC) Circuit Diagram (1/1)
(S1PS1433)



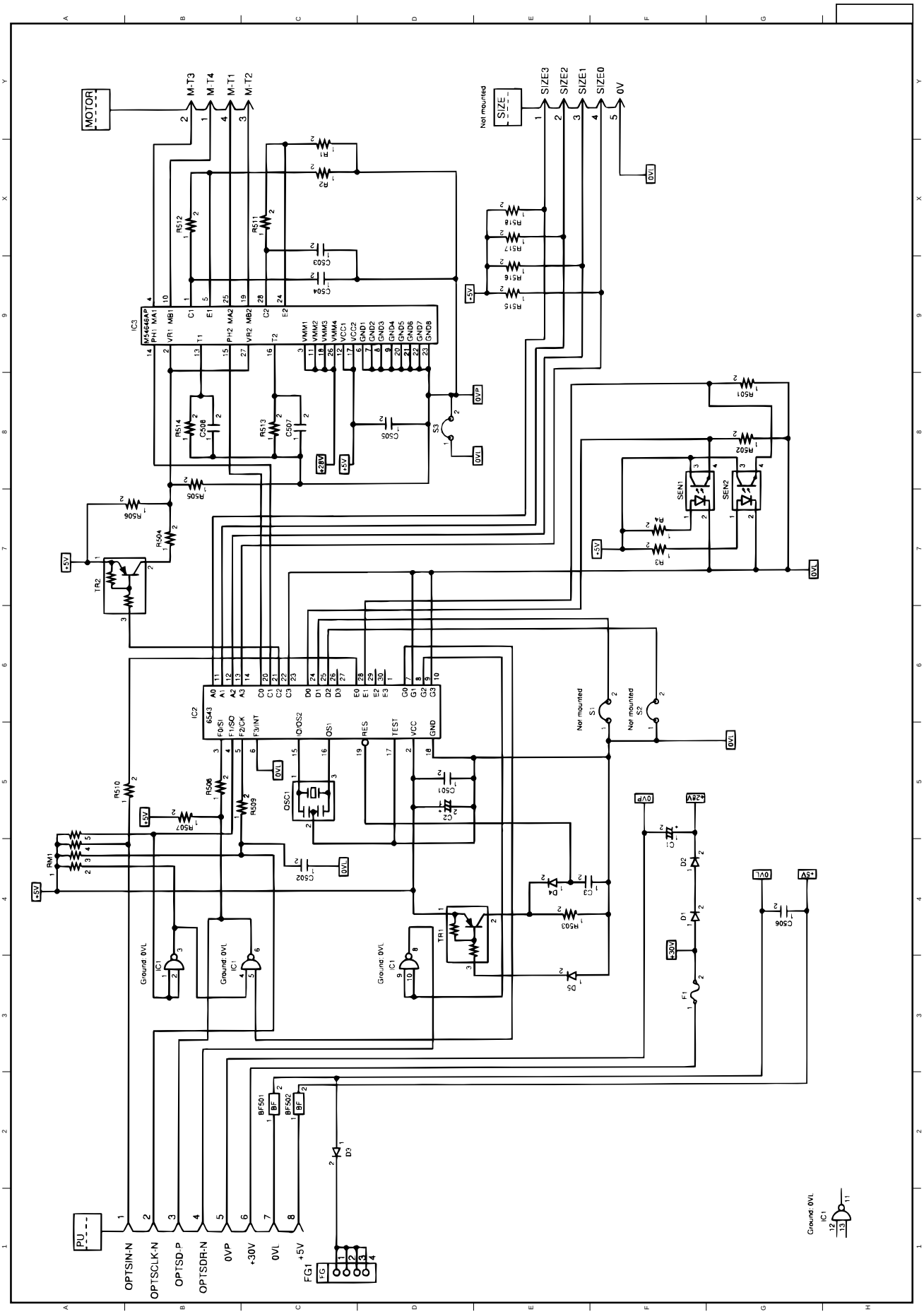
MPW1461 POW (230VAC) Circuit Diagram (1/1)
(S1PS1432)



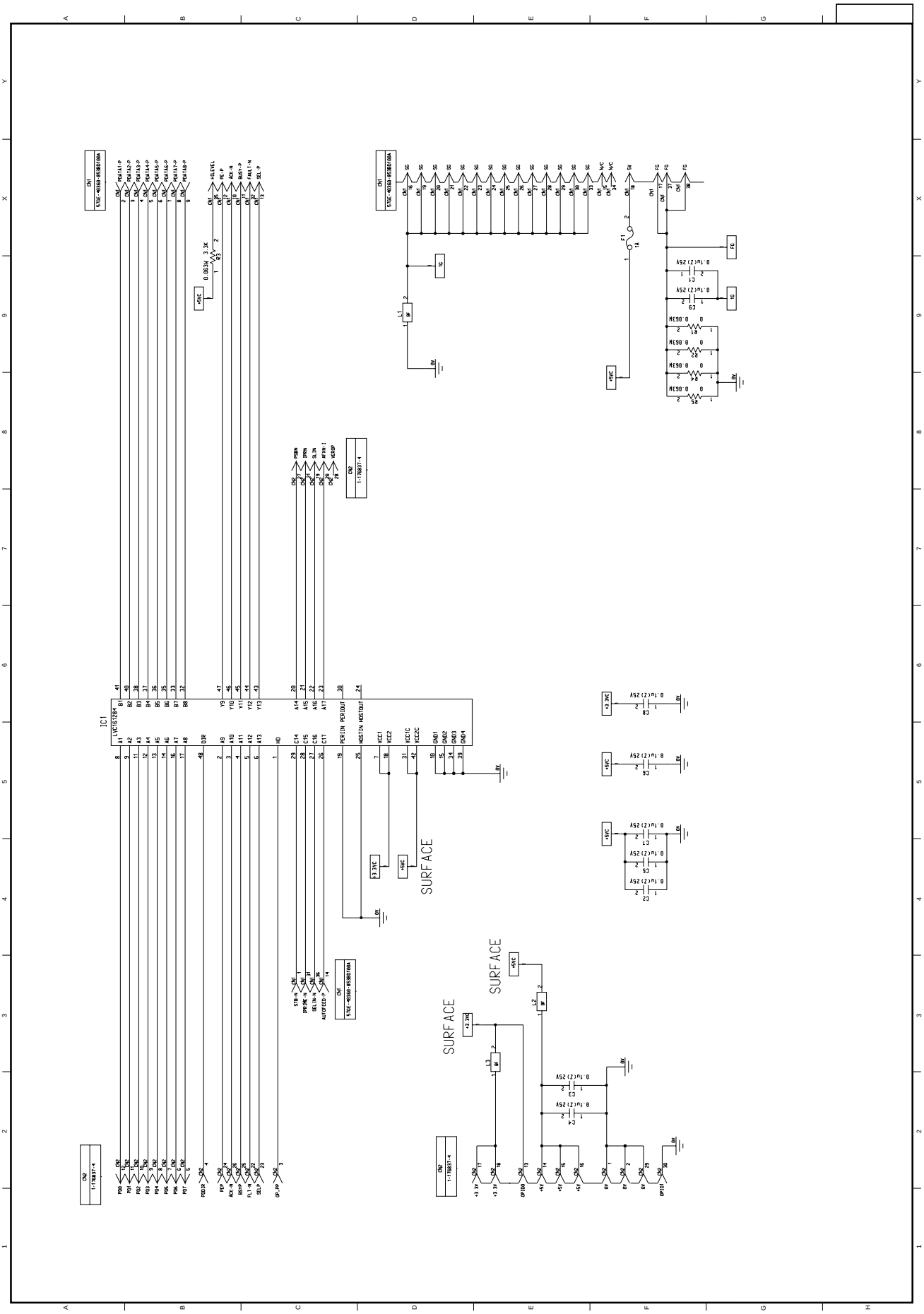
H08-PCB Circuit Diagram (1/1)
(41144801SS)



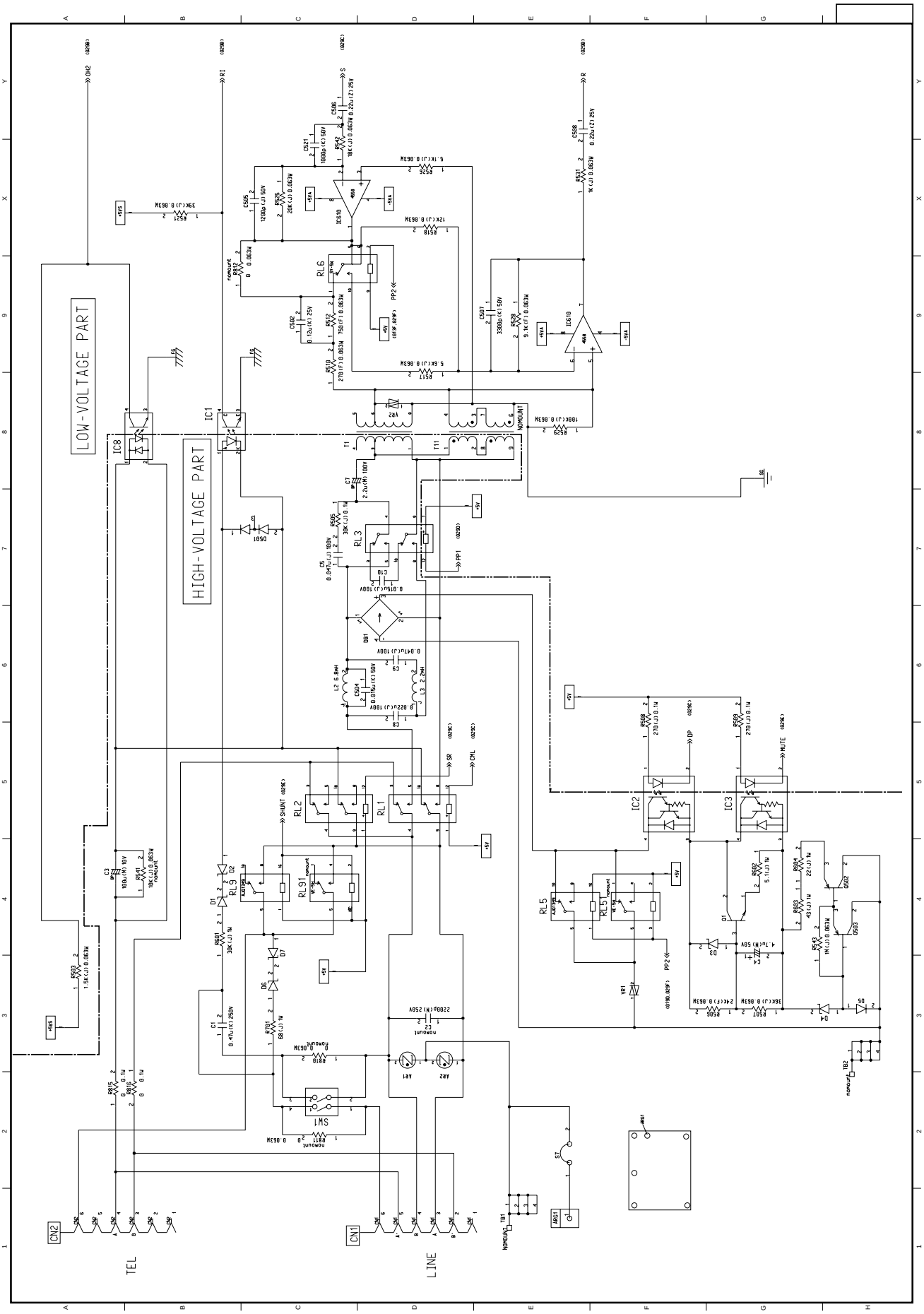
RA1-PCB Circuit Diagram (1/1)
(40691901SS)



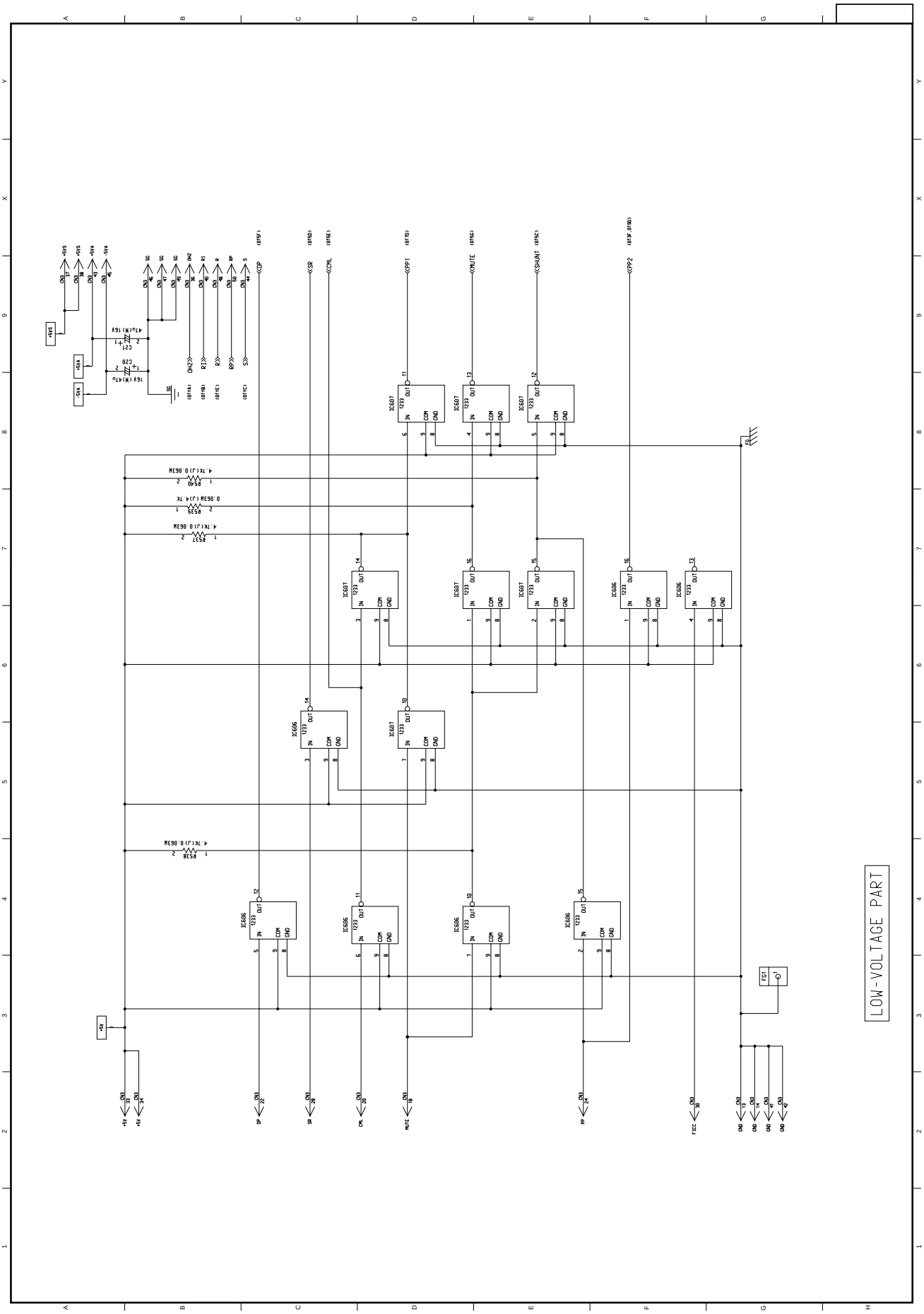
TQSB-PCB Circuit Diagram (1/1)
(3SS5005-3362Z001)



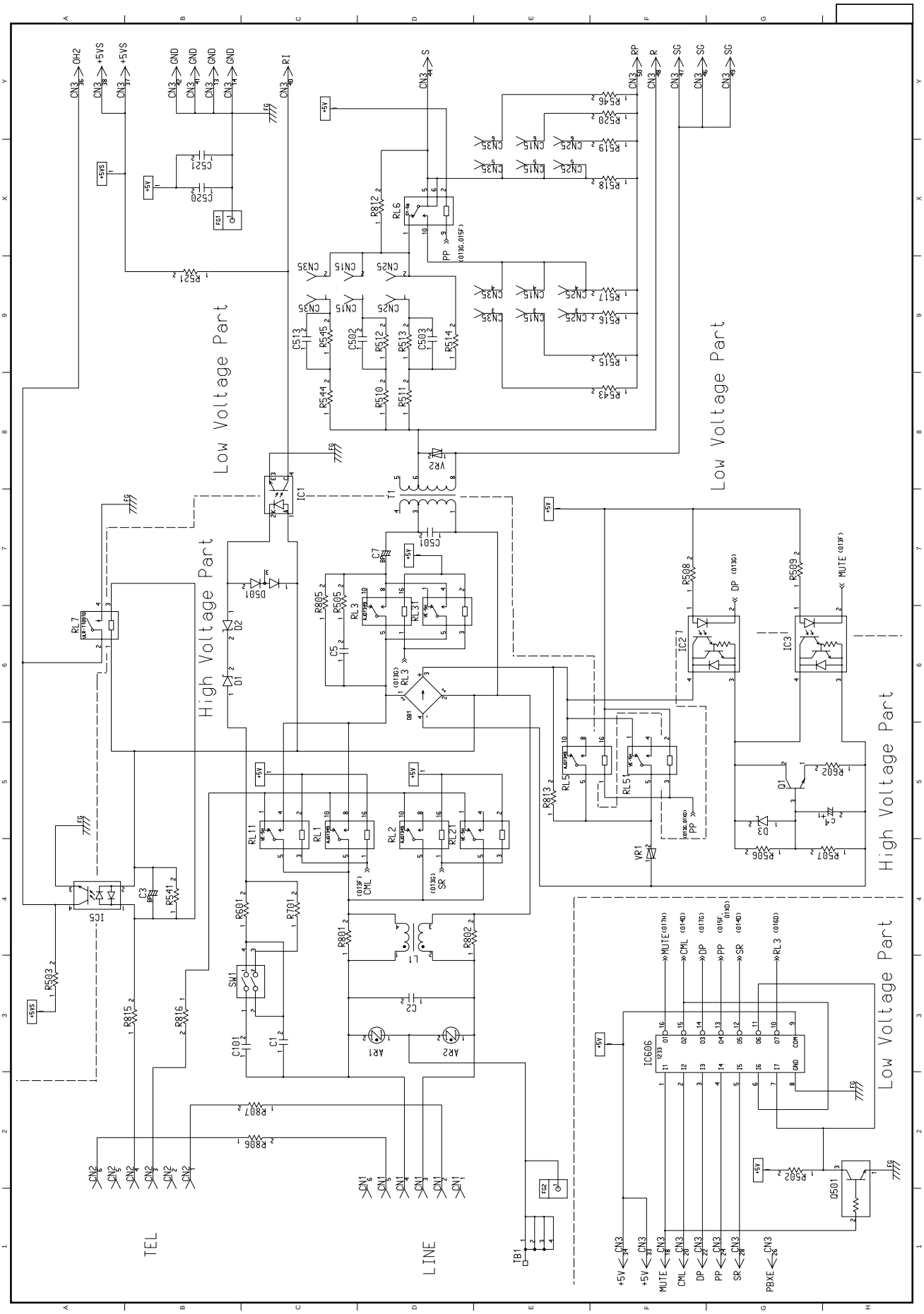
CT2-PCB Circuit Diagram (1/1)
(42161601SS)



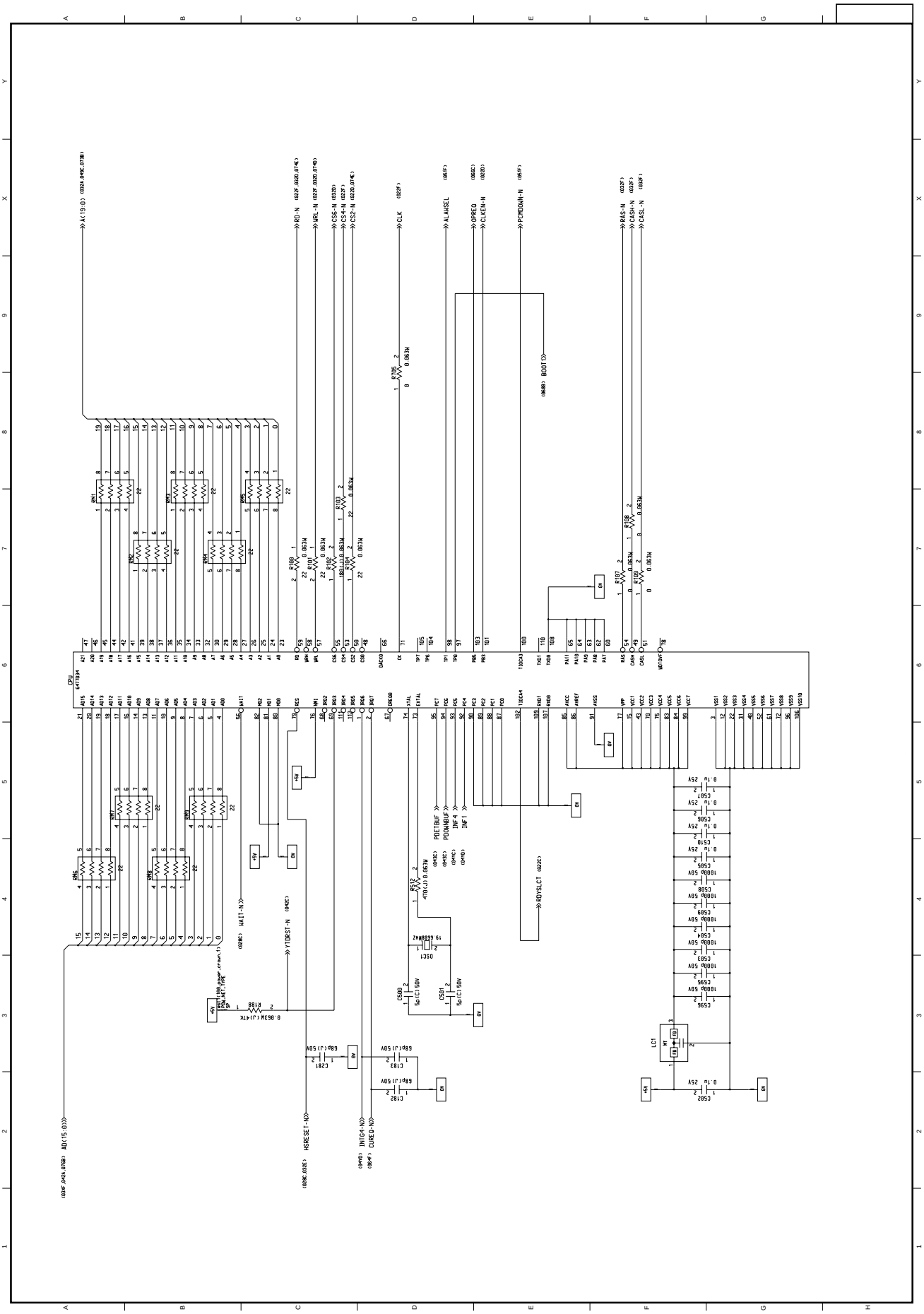
EN2-PCB Circuit Diagram (1/2)
(42310801SS)



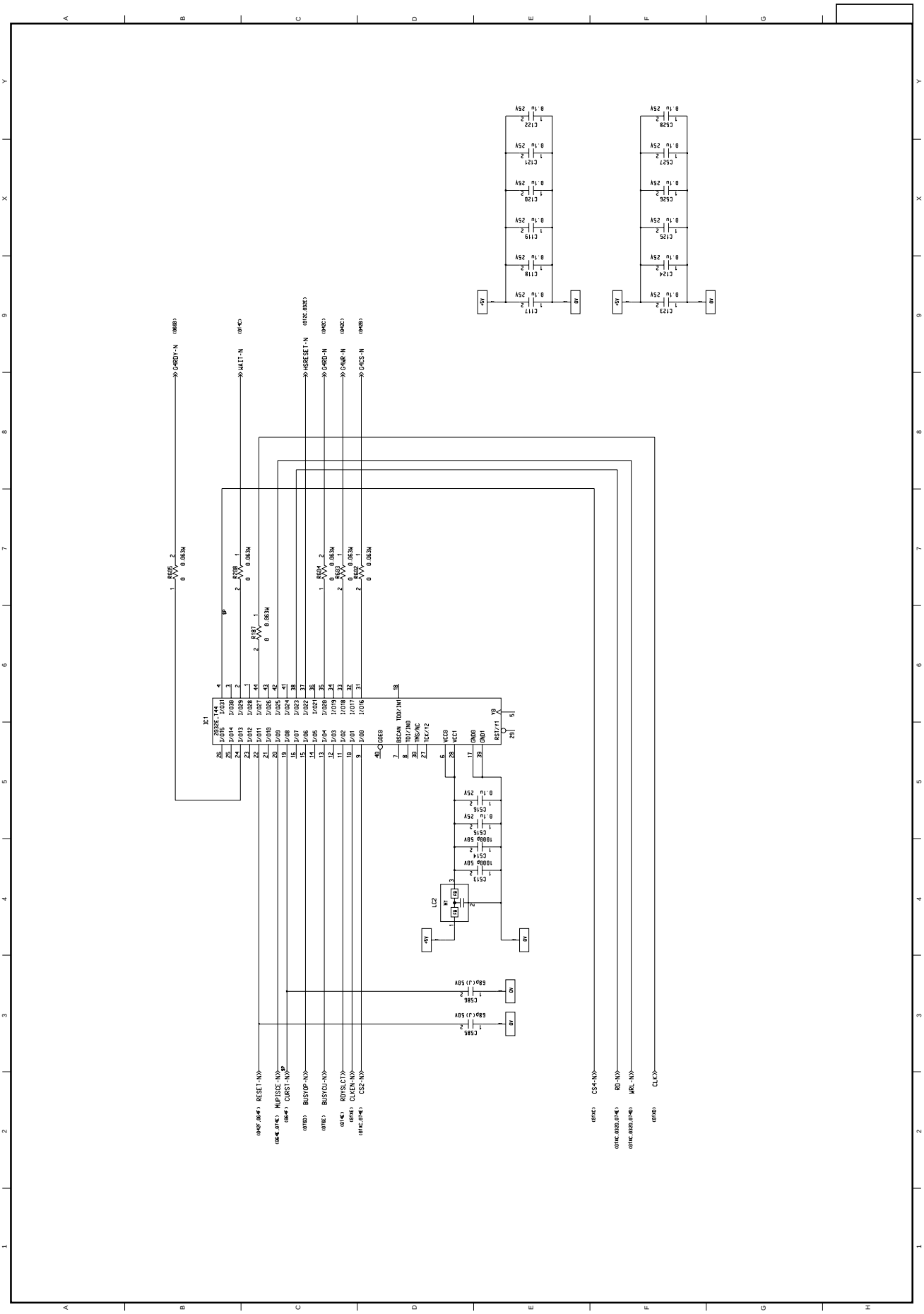
EN2-PCB Circuit Diagram (2/2)
(42310801SS)



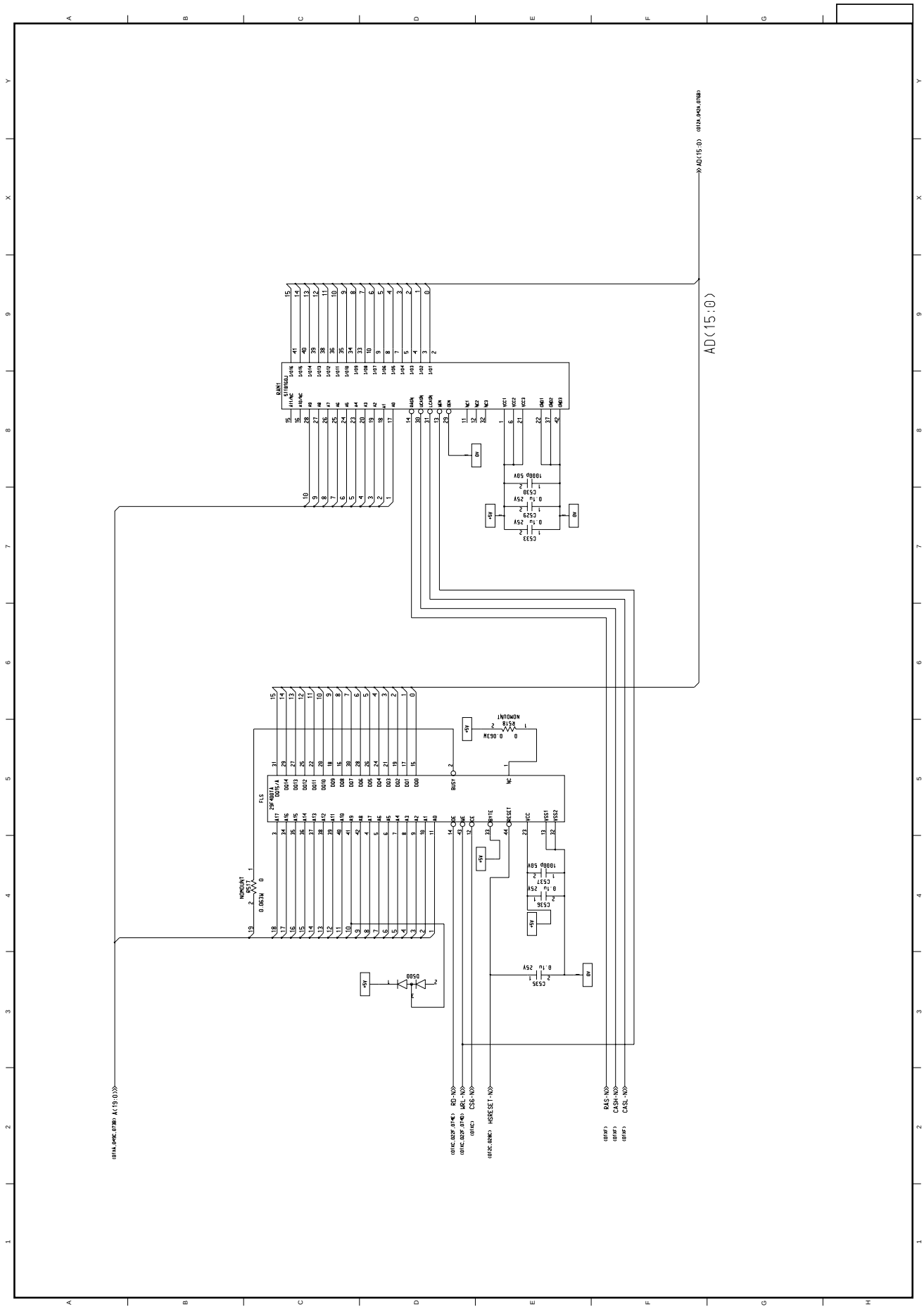
INU-PCB Circuit Diagram (1/1)
(41144501SS)



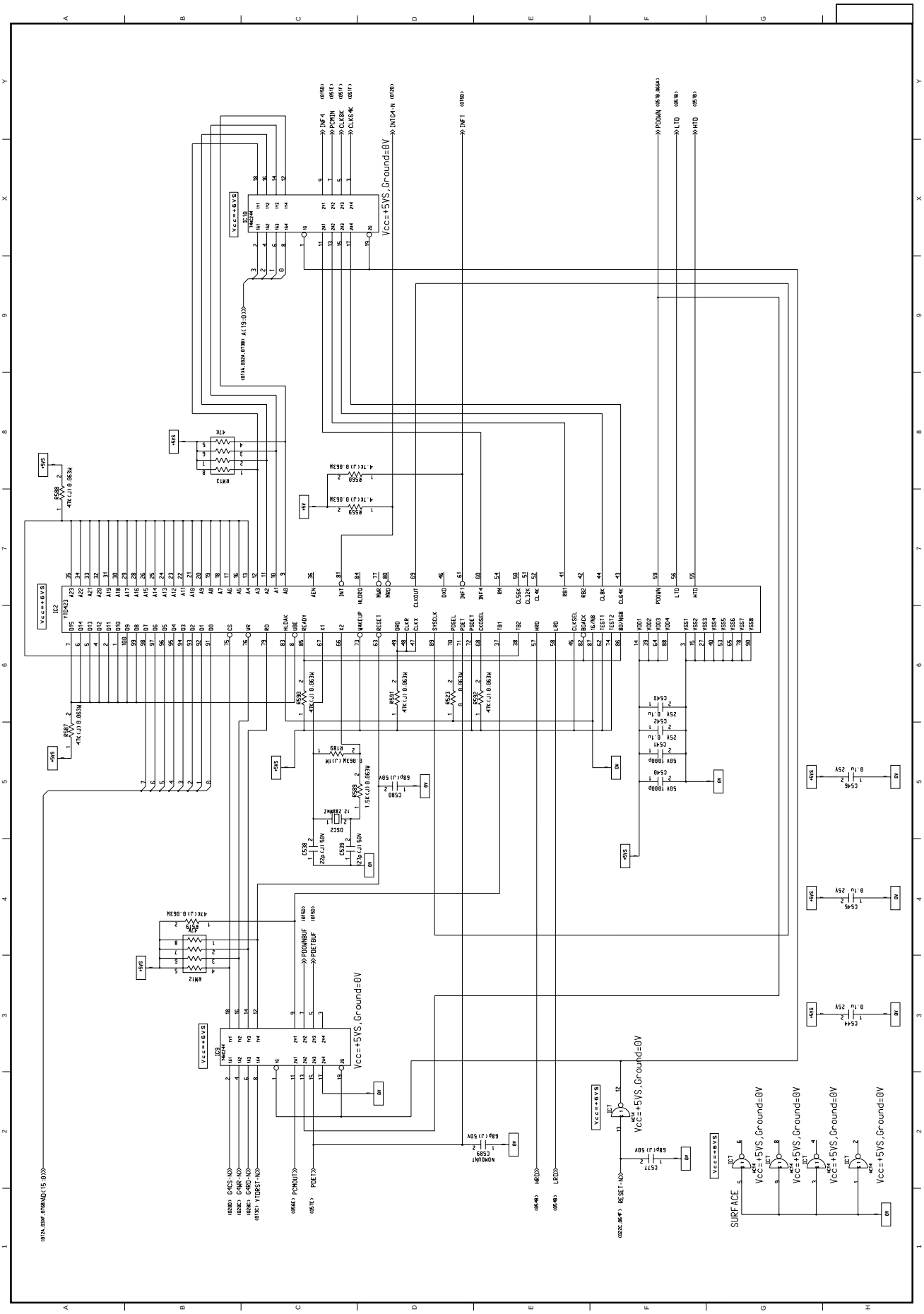
G4N-PCB Circuit Diagram (1/7)
(41033701SS)



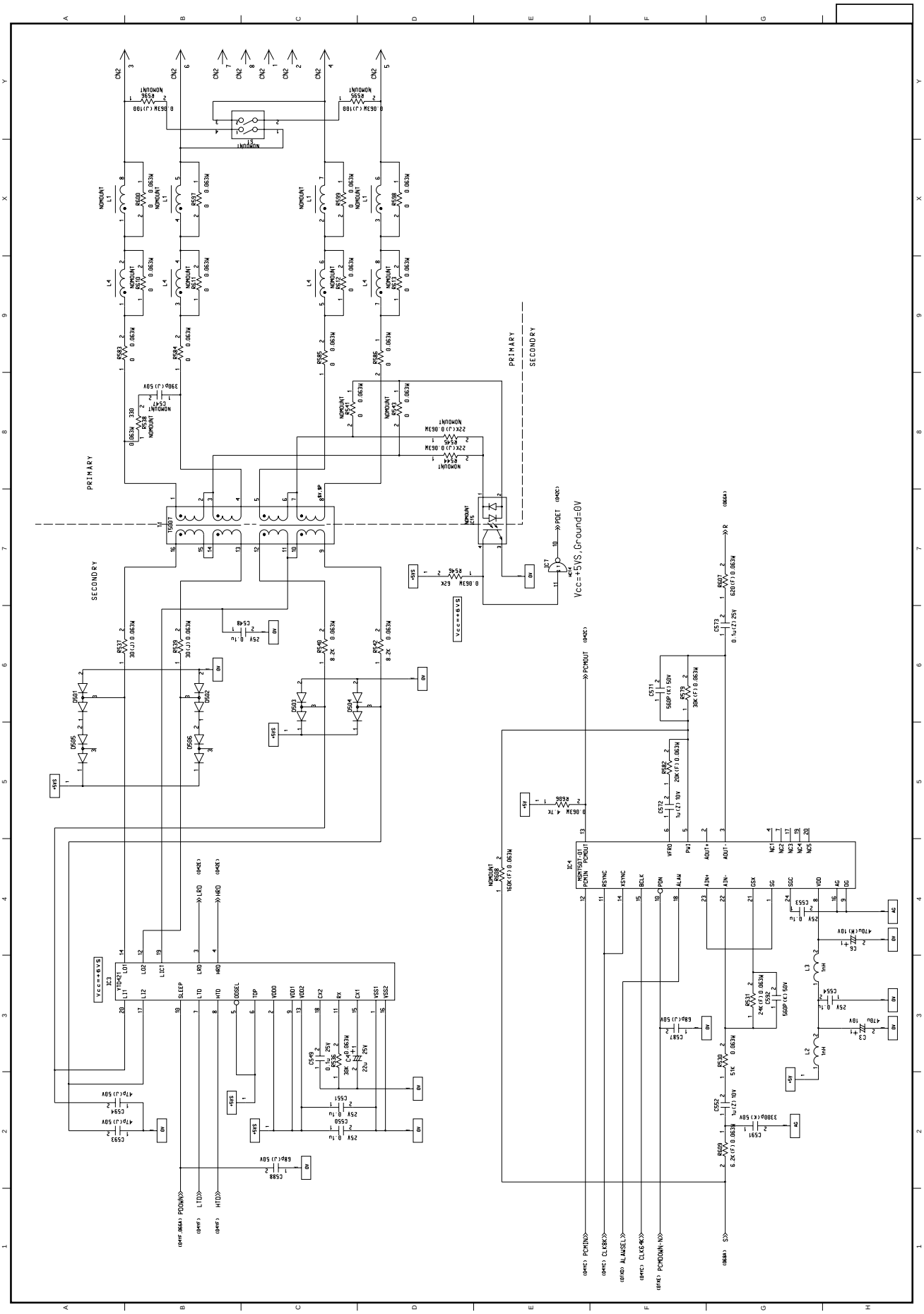
G4N-PCB Circuit Diagram (2/7)
(41033701SS)



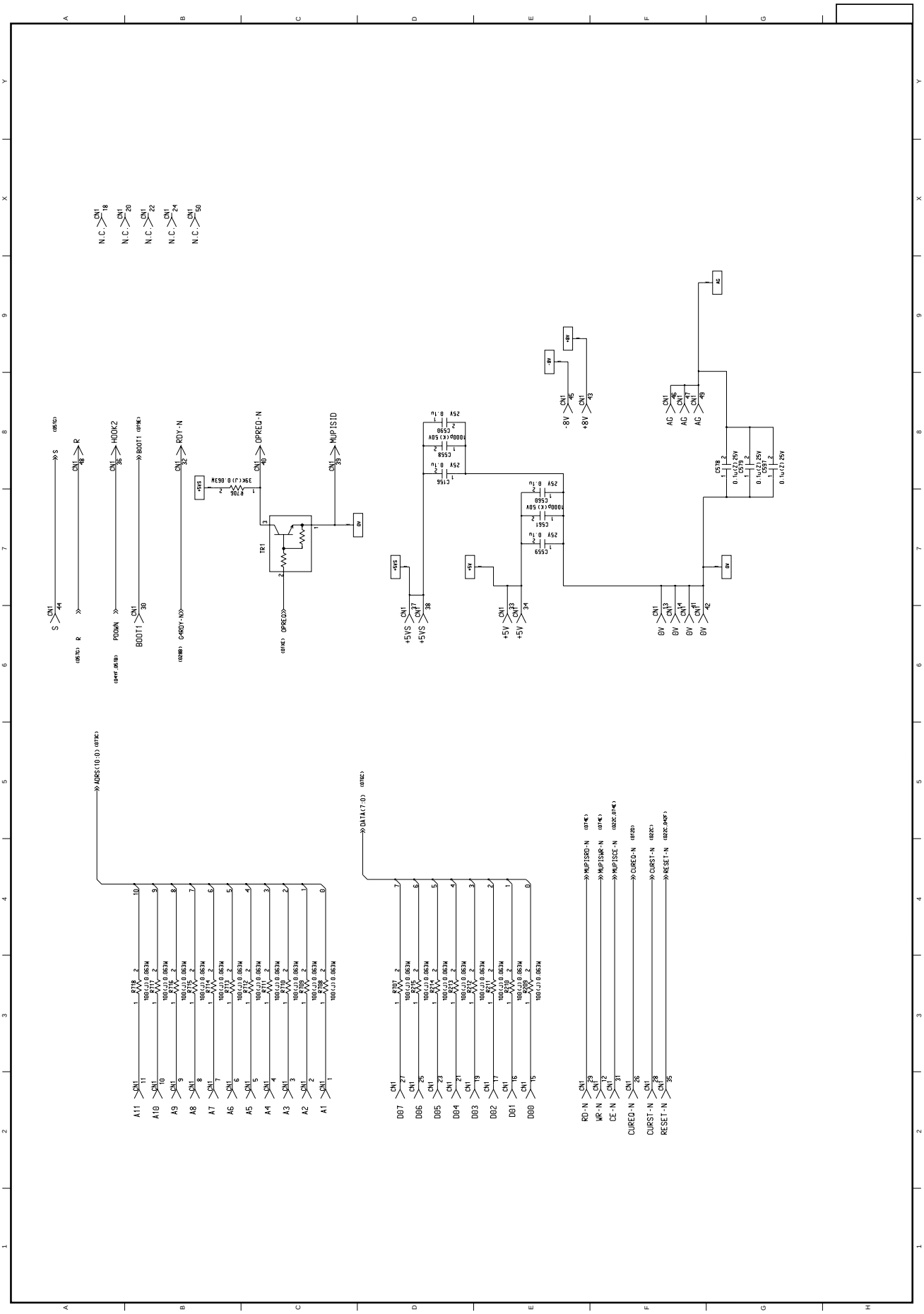
G4N-PCB Circuit Diagram (3/7)
(41033701SS)



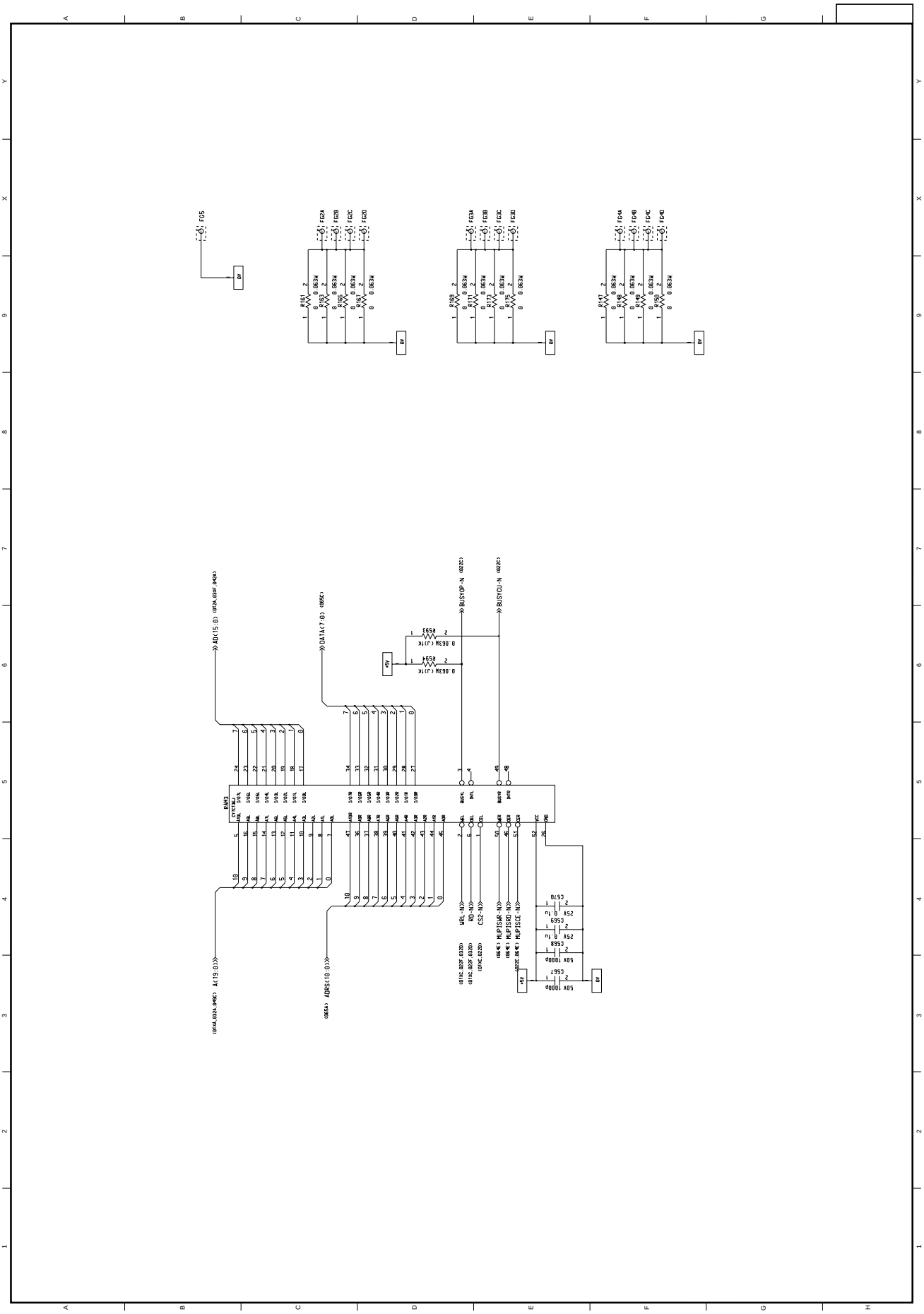
G4N-PCB Circuit Diagram (4/7)
(41033701SS)



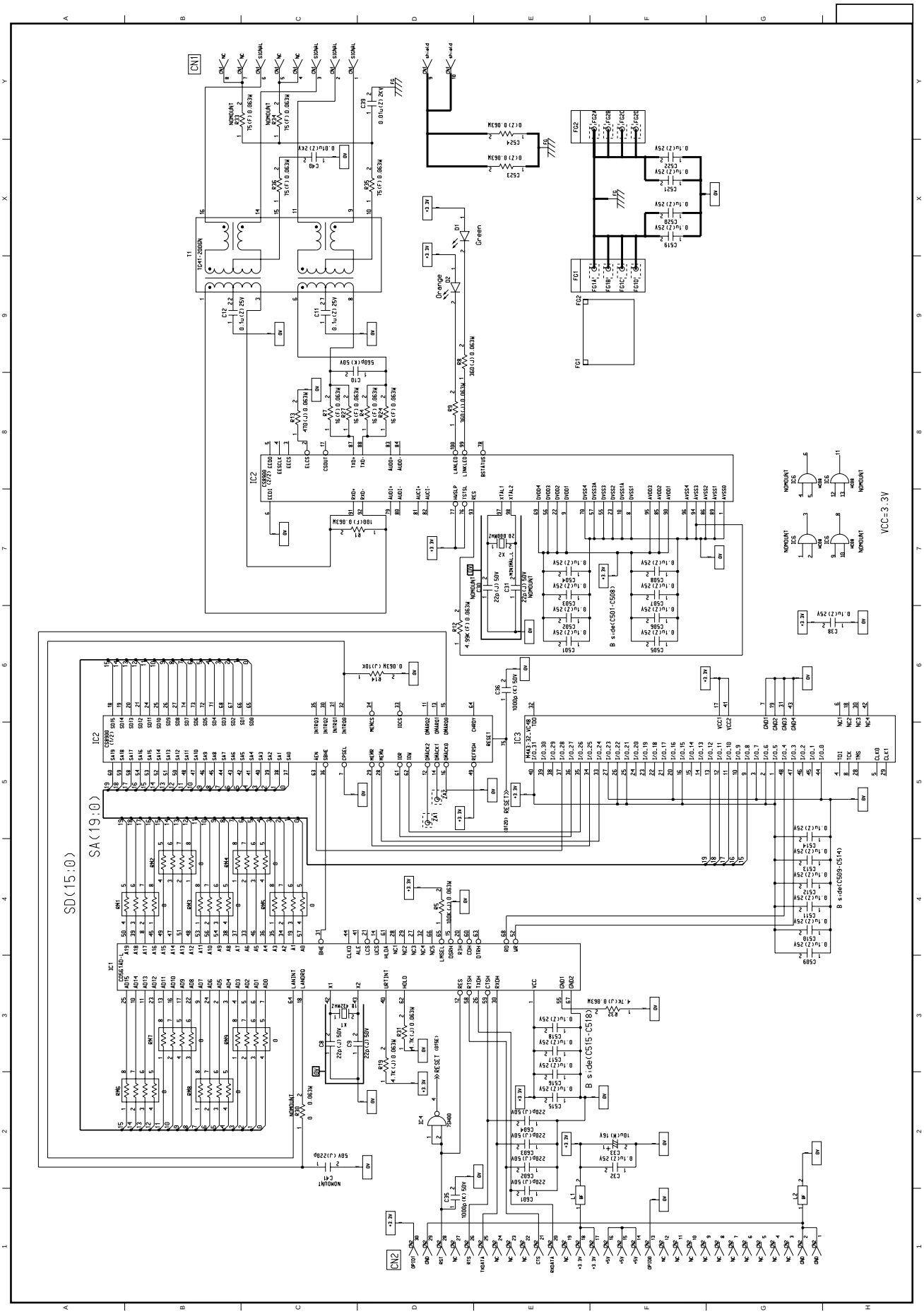
G4N-PCB Circuit Diagram (5/7)
(41033701SS)



G4N-PCB Circuit Diagram (6/7)
(41033701SS)



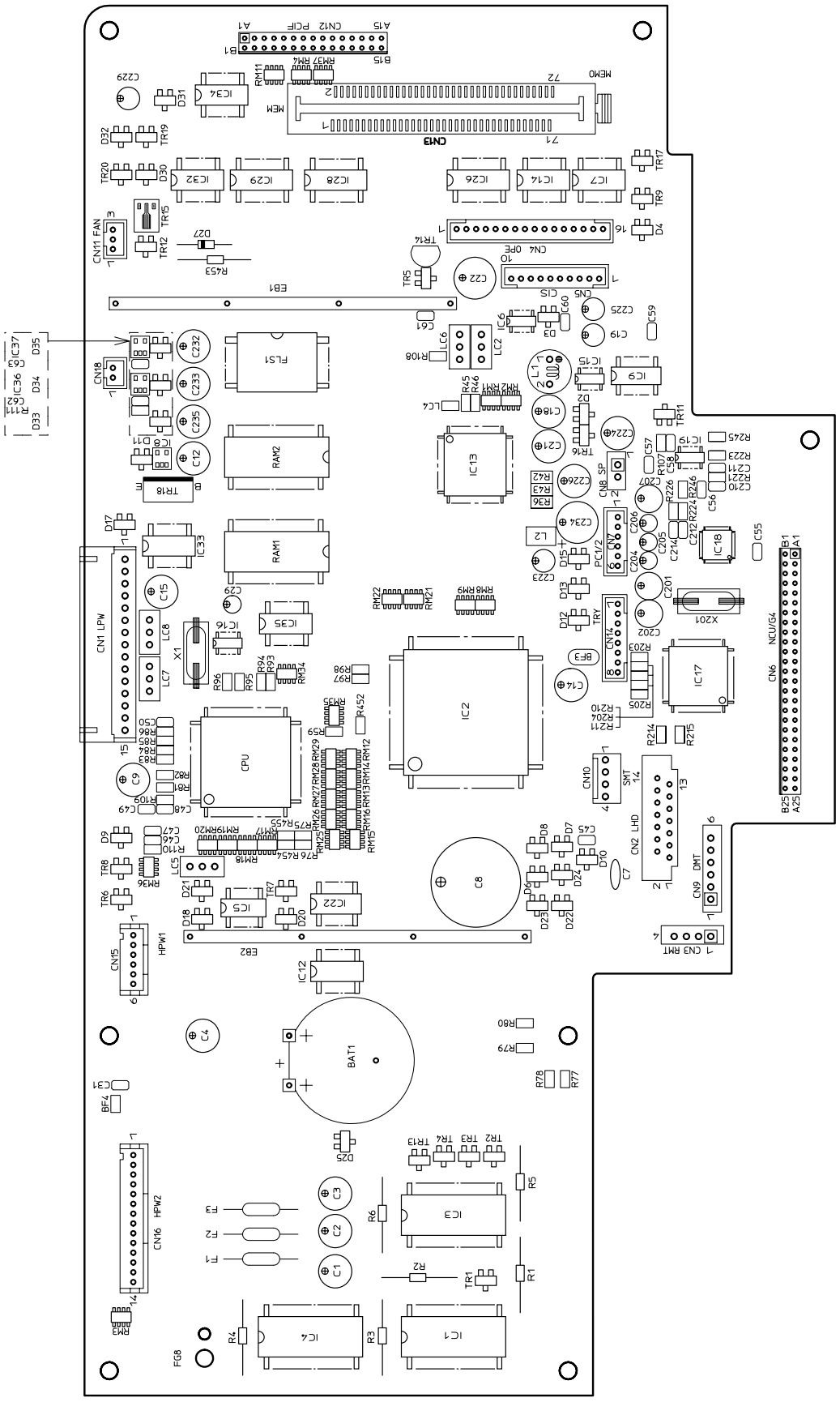
G4N-PCB Circuit Diagram (7/7)
(41033701SS)



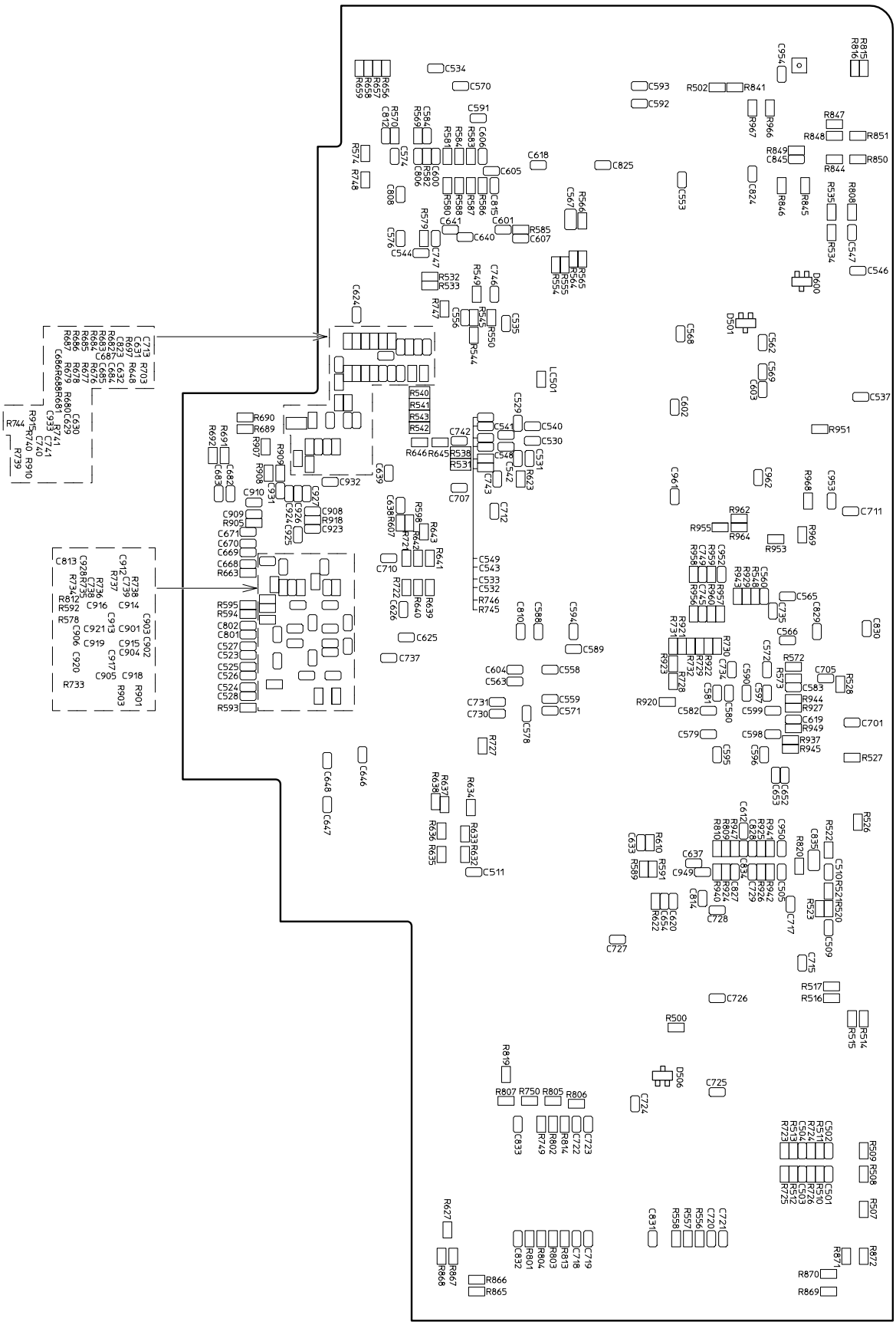
ICP-PCB Circuit Diagram (1/1)
(42161801SS)

APPENDIX D BOARD LAYOUT

V60-PCB Assy. (1/12~12/12)	(41989201)
P60-PCB Assy. (1/4~4/4)	(41178601)
MPW1561 (120V) -PCB Assy. (1/6~6/6)	(S1PS1433)
MPW1461 (230V) -PCB Assy. (1/7~7/7)	(S1PS1432)
H08-PCB Assy. (1/5~5/5)	(41144801)
RA1-PCB Assy. (1/1)	(40691901~40691903)
TQSB-PCB Assy. (1/3~3/3)	(4YA5505-3362G001)
CT2-PCB Assy. (1/2~2/2)	(42161601)
EN2-PCB Assy. (1/5~5/5)	(42310801)
INU-PCB Assy. (1/3~3/3)	(41144501)
G4N-PCB Assy. (1/4~4/4)	(41033701)
ICP-PCB Assy. (1/3~3/3)	(42161801)



V60-PCB Assy. (1/12)
(41989201)



V60-PCB Assy. (2/12)
(41989201)

V60-PCB Assy (3/12)
(41989201)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D17	1SS392(TE85R) D-Signal -C	6110225N0001	1	
2	D9, D11, D30~D32	SS100MA80VKCP D-Signal -C	611A0000N0002	5	
3	D4, D7, D18, D20, D21, D501, D506	SS100MA80VSCP D-Signal -C	611A0000N0003	7	
4	D33~D35, D600	1SS349 D-Signal -C	611A0225N0004	4	
5	D3, D6, D8, D10, D12, D13, D15, D22~D25	SB007T03C D-Signal -C	611A0232N0002	11	
6	D2	RD4.7M-B2 D-Zener -C	613A0233M0102B	1	
7	D27	RD6.2E-B3 D-Zener -	613A1231L0132C	1	
8	R453	RD1/2Y180ohmJ RES-Carbon flm-	321A1431J0181	1	
9	R550	CR/RK73H/ERJ/MCRF102 RES-MET RN -C	3235003F0102	1	
10	R544, R748	CR/RK73H/ERJ/MCRF103 RES-MET RN -C	3235003F0103	2	
11	R587, R683, R915	CR/RK73H/ERJ/MCRF104 RES-MET RN -C	3235003F0104	3	
12	R739, R749	CR/RK73H/ERJ/MCRF122 RES-MET RN -C	3235003F0122	2	
13	R245, R750	CR/RK73H/ERJ/MCRF123 RES-MET RN -C	3235003F0123	2	
14	R940~R942	CR/RK73H/ERJ/MCRF124 RES-MET RN -C	3235003F0124	3	
15	R224, R226, R685	CR/RK73H/ERJ/MCRF133 RES-MET RN -C	3235003F0133	3	
16	R648	CR/RK73H/ERJ/MCRF153 RES-MET RN -C	3235003F0153	1	
17	R801	CR/RK73H/ERJ/MCRF163 RES-MET RN -C	3235003F0163	1	
18	R686	CR/RK73H/ERJ/MCRF202 RES-MET RN -C	3235003F0202	1	
19	R802	CR/RK73H/ERJ/MCRF203 RES-MET RN -C	3235003F0203	1	
20	R679	CR/RK73H/ERJ/MCRF204 RES-MET RN -C	3235003F0204	1	

V60-PCB Assy (4/12)
(41989201)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	R549, R745	CR/RK73H/ERJ/MCRF222 RES-MET RN -C	3235003F0222	2	
22	R677	CR/RK73H/ERJ/MCRF241 RES-MET RN -C	3235003F0241	1	
23	R960	CR/RK73H/ERJ/MCRF271 RES-MET RN -C	3235003F0271	1	
24	R676	CR/RK73H/ERJ/MCRF301 RES-MET RN -C	3235003F0301	1	
25	R557, R803	CR/RK73H/ERJ/MCRF362 RES-MET RN -C	3235003F0362	2	
26	R703	CR/RK73H/ERJ/MCRF391 RES-MET RN -C	3235003F0391	1	
27	R558	CR/RK73H/ERJ/MCRF471 RES-MET RN -C	3235003F0471	1	
28	R804	CR/RK73H/ERJ/MCRF561 RES-MET RN -C	3235003F0561	1	
29	R805	CR/RK73H/ERJ/MCRF562 RES-MET RN -C	3235003F0562	1	
30	R684	CR/RK73H/ERJ/MCRF563 RES-MET RN -C	3235003F0563	1	
31	R924~R926	CR/RK73H/ERJ/MCRF623 RES-MET RN -C	3235003F0623	3	
32	R806	CR/RK73H/ERJ/MCRF273 RES-MET RN -C	3235003F0273	1	
33	R678	CR/RK73H/ERJ/MCRF821 RES-MET RN -C	3235003F0821	1	
34	R746, R807	CR/RK73H/ERJ/MCRF912 RES-MET RN -C	3235003F0912	2	
35	R246, R740, R741, R910	CR/RK73H/ERJ/MCRF913 RES-MET RN -C	3235003F0913	4	
36	R532, R533, R572, R573, R645, R646, R697, R908, R909	CR/RK73K/ERJ/MCRJ100 RES-MET RN -C	3235003J0100	9	
37	R581, R586, R634	CR/RK73K/ERJ/MCRJ101 RES-MET RN -C	3235003J0101	3	
38	R500, R508, R509, R522, R959	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	5	
39	R82, R507, R520, R570, R580, R582~R585, R598, R607, R733, R808, R918, R944, R945, R947, R949	CR/RK73K/ERJ/MCRJ103 RES-MET RN -C	3235003J0103	18	

V60-PCB Assy (5/12)
(41989201)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
40	R205, R734, R736, R844, R846	CR/RK73K/ERJ/MCRJ104 RES-MET RN -C	3235003J0104	5	
41	R111	CR/RK73K/ERJ/MCRJ105 RES-MET RN -C	3235003J0105	1	
42	R527	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
43	R641	CR/RK73K/ERJ/MCRJ153 RES-MET RN -C	3235003J0153	1	
44	R85	CR/RK73K/ERJ/MCRJ183 RES-MET RN -C	3235003J0183	1	
45	R632, R633, R635, R636	CR/RK73K/ERJ/MCRJ201 RES-MET RN -C	3235003J0201	4	
46	R809	CR/RK73K/ERJ/MCRJ202 RES-MET RN -C	3235003J0202	1	
47	R107, R810	CR/RK73K/ERJ/MCRJ204 RES-MET RN -C	3235003J0204	2	
48	R512, R637, R638	CR/RK73K/ERJ/MCRJ221 RES-MET RN -C	3235003J0221	3	
49	R566, R688	CR/RK73K/ERJ/MCRJ222 RES-MET RN -C	3235003J0222	2	
50	R851	CR/RK73K/ERJ/MCRJ224 RES-MET RN -C	3235003J0224	1	
51	R640	CR/RK73K/ERJ/MCRJ241 RES-MET RN -C	3235003J0241	1	
52	R84, R929	CR/RK73K/ERJ/MCRJ273 RES-MET RN -C	3235003J0273	2	
53	R510, R511, R513	CR/RK73K/ERJ/MCRJ301 RES-MET RN -C	3235003J0301	3	
54	R526	CR/RK73K/ERJ/MCRJ302 RES-MET RN -C	3235003J0302	1	
55	R642	CR/RK73K/ERJ/MCRJ361 RES-MET RN -C	3235003J0361	1	
56	R83, R937	CR/RK73K/ERJ/MCRJ393 RES-MET RN -C	3235003J0393	2	
57	R203, R204, R210, R211, R738	CR/RK73K/ERJ/MCRJ470 RES-MET RN -C	3235003J0470	5	
58	R548, R554, R555, R564, R565, R589, R594, R639, R643, R850	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	10	

V60-PCB Assy (6/12)
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REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
59	R59, R93, R94, R109, R110, R214, R215, R454, R455, R502, R569, R574, R579, R681, R812, R841, R901, R903, R905	CR/RK73K/ERJ/MCRJ473 RES-MET RN -C	3235003J0473	19	
60	R588, R591, R610, R622, R845, R847~R849, R956~R958, R966~R969	CR/RK73K/ERJ/MCRJ474 RES-MET RN -C	3235003J0474	15	
61	R81, R86, R221, R682	CR/RK73K/ERJ/MCRJ512 RES-MET RN -C	3235003J0512	4	
62	R927, R943	CR/RK73K/ERJ/MCRJ513 RES-MET RN -C	3235003J0513	2	
63	R680	CR/RK73K/ERJ/MCRJ683 RES-MET RN -C	3235003J0683	1	
64	R534, R535	CR/RK73K/ERJ/MCRJ752 RES-MET RN -C	3235003J0752	2	
65	R556, R813, R814	CR/RK73K/ERJ/MCRJ822 RES-MET RN -C	3235003J0822	3	
66	R531, R538	RM73B2A101F RES-MET RN -C	323A5003F0101	2	
67	R42, R43	RM73B2A301F RES-MET RN -C	323A5003F0301	2	
68	R744	RM73B2A513F RES-MET RN -C	323A5003F0513	1	
69	R540, R541	RM73B2A121J RES-MET RN -C	323A5003J0121	2	
70	R542, R543	RM73B2A200J RES-MET RN -C	323A5003J0200	2	
71	R36	2125JPW RES-MET RN -C	323A5003P0001	1	
72	R1~R4	MSF1/2B1.3ohmJ RES-MET OX -	324A1001J0139	4	
73	R5, R6	MSF1/2B2ohmJ RES-MET OX -	324A1001J0209	2	
74	R46, R77~R80, R96, R108, R223, R452, R514~R517, R521, R523, R528, R545, R627, R656~R659, R687, R689~R692, R721, R722, R727, R735, R737, R747, R815, R816, R819, R820, R865~R872, R907, R951, R953, R955, R962, R964	CR/RK73Z/ERJ/MCRJ-0V RES-Zero ohm -C	3255003P0001	51	

V60-PCB Assy (7/12)
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REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
75	RM3	CN1J/EXB/BCN10KohmJ RES-Block -C	3345003J0103	1	
76	RM4, RM11, RM25~RM29, RM34~RM37	CN1J/EXB/BCN47KohmJ RES-Block -C	3345003J0473	11	
77	RM1, RM2, RM8, RM9	CN1J/EXB/BCN0ohm RES-Block -C	3345003P0001	4	
78					
79	C912	GRM/UMK/MCH/100CH CAP-Ceramic -C	3033003C0100	1	
80	C60, C734, C745	GRM/UMK/MCH/101CH CAP-Ceramic -C	3033003C0101	3	
81	C928	GRM/UMK/MCH/120CH CAP-Ceramic -C	3033003C0120	1	
82	C565, C566	GRM/UMK/MCH/150CH CAP-Ceramic -C	3033003C0150	2	
83	C740, C741	GRM/UMK/MCH/180CH CAP-Ceramic -C	3033003C0180	2	
84	C48, C49, C569, C572, C652~C654, C713, C730, C743, C749, C932	GRM/UMK/MCH/221CH CAP-Ceramic -C	3033003C0221	12	
85	C601	GRM/UMK/MCH/391CH CAP-Ceramic -C	3033003C0391	1	
86	C523, C527, C801, C802	GRM/UMK/MCH/470CH CAP-Ceramic -C	3033003C0470	4	
87	C46, C47, C50, C55, C57, C59, C61, C511, C524~C526, C528, C535, C546, C547, C568, C570, C574, C576, C593, C600, C602, C606, C607, C612, C619, C624~C626, C629, C630, C637, C646, C647, C668, C670, C682, C685, C705, C707, C711, C715, C724~C728, C735, C737, C806, C808, C812~C815, C834, C901~C906, C913~C921, C923, C925, C962	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	74	
88	C562, C632, C742, C739, C908	GRM/UMK/MCH/103B 50V CAP-Ceramic -C	3036003K0103	5	
89	C731	GRM/UMK/MCH/152B 50V CAP-Ceramic -C	3036003K0152	1	
90	C210	GRM/UMK/MCH/222B 50V CAP-Ceramic -C	3036003K0222	1	

V60-PCB Assy (8/12)
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REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
91	C502~C504	GRM/TMK/MCH/223B 25V CAP-Ceramic -C	3036003K0223	3	
92	C718~C723	GRM/UMK/MCH/332B 50V CAP-Ceramic -C	3036003K0332	6	
93	C501, C823	GRM/TMK/MCH/473B 25V CAP-Ceramic -C	3036003K0473	2	
94	C31, C542, C548, C553, C618, C648, C710, C712, C717, C824, C825, C529~C533, C540, C541, C543, C549, C558, C559, C563, C571, C578~C582, C588~C590, C594~C599, C604, C810	GRM/UMK/MCH/103Z 50V CAP-Ceramic -C	3036003Z0103	40	
95	C45, C56, C62, C63, C505, C509, C510, C534, C537, C544, C556, C560, C583~C584, C591, C592, C603, C605, C620, C631, C633, C638~C641, C669, C671, C683, C687, C701, C729, C738, C746, C747, C827~C833, C845, C909, C910, C924, C926, C927, C931, C933, C949, C950, C952~C954, C961	GRM/TMK/MCH/104Z 25V CAP-Ceramic -C	3036003Z0104	55	
96	C211, C212, C214	GRM/LMK/MCH/105Z 10V CAP-Ceramic -C	3036003Z0105	3	
97	C58, C684, C686	EMK107F474ZA-T 16V CAP-Ceramic -C	3036005Z0474	3	
98	C7	CK92F1E155ZS 25V CAP-Ceramic -	303A4117Z2155	1	
99	C567, C835	CK2012F1H104Z 50V CAP-Ceramic -C	303A6008Z3104	2	
100	C223	UMA/50MS5-1M 50V CAP-Alum(CE) -P 1uF	3041103H1109	1	
101	C224	KME25VB-100-OA 25V CAP-Alum(CE) -	304A1039E1101	1	
102	C204~C206	10MS5-10M 10V CAP-Alum(CE) - 10uF	304A1046A1100	3	
103	C201, C202, C207	10MS5-33M 10V CAP-Alum(CE) - 33uF	304A1046A1330	3	
104	C9, C12, C14, C15, C235	10MS5-68M 10V CAP-Alum(CE) - 68uF	304A1046A1680	5	
105	C19, C225, C229	16MS5-10M 16V CAP-Alum(CE) - 10uF	304A1046C1100	3	

V60-PCB Assy (9/12)
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REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
106	C18, C21, C226, C233	16MS5-47M 16V CAP-Alum(CE) - 47uF	304A1046C1470	4	
107	C232	KMG16VB-220M-FC 16V CAP-Alum(CE) -	304A1180C1221	1	
108	C22	ECA1CM102 16V CAP-Alum(CE) -	304A1179C1102	1	
109	C29	50MS5-0.68M 50V CAP-Alum(CE) -	304A1046H1688	1	
110	C8	URS1A332MHA 10V CAP-Alum(CE) -	3041106A1332	1	
111	C234	KMG10VB-470M-FC 10V CAP-Alum(CE) -	304A1180A1471	1	
112	C1~C4	KMG50VB-47M-FC 50V CAP-Alum(CE) - 47uF	304A1180H1470	4	
113					
114	IC26, IC28, IC29	SN74S1053NS Digital IC-BIP-S	7001050N1053	3	
115	IC12, IC35	SN74LV08ANSR Digital IC-MOS-S	7022450N3008	2	
116	IC33, IC34	SN74LV126ANSR Digital IC-MOS-S	7022450N3126	2	
117	IC7	SN74AHCT14NSR Digital IC-MOS-B	7022850N3014	1	
118	IC32	74HC14FP Digital IC-MOS-S	702A1703N0014	1	
119	IC14	74HC126FP Digital IC-MOS-S	702A1703N0126	1	
120	IC22	NR8576AB Analog-BIPLIN -S	7201540N0001	1	
121	IC5	UPC324G2 Analog-BIPLIN -S	720A0023N0038	1	
122	IC15	NJM386M Analog-BIPLIN -S	720A0028N0006	1	
123	IC19	NJM4558M Analog-BIPLIN -S	720A0028N0039	1	
124	IC6	NJM318E Analog-BIPLIN -S	720A0028N0113	1	
125	IC1, IC3, IC4	MTD2005FB Analog-BIPLIN -S	720A1816N0001	3	

V60-PCB Assy (10/12)
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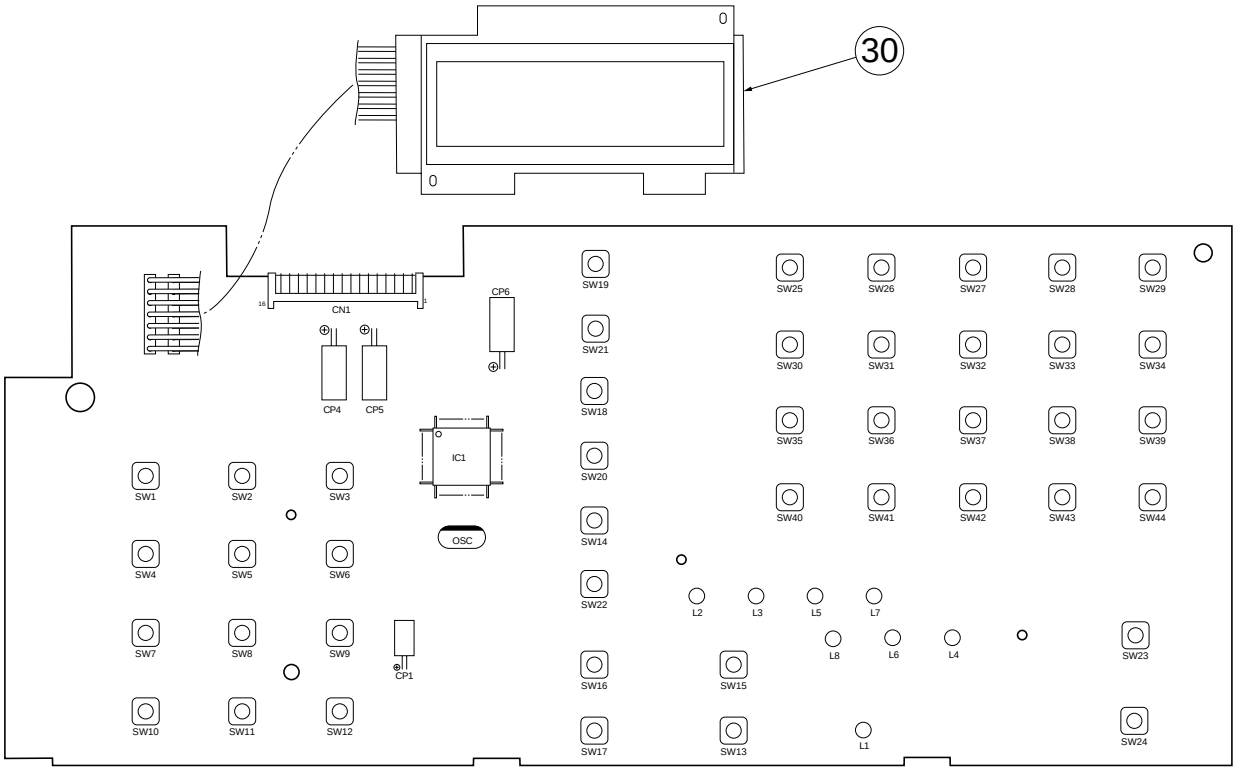
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
126	IC16	M51953AFP Analog-BIPLIN -S	720A4022N0008	1	
127	IC36	RN5VL40AA-TR Analog-MOSLIN -S	7300042N0001	1	
128	IC8	RN5RF36BA-TR Analog-MOSLIN -C	7301042N0002	1	
129	IC37	R1110N361B-TR Analog-MOSLIN -C	7301042N0003	1	
130	IC9	TC4051BF Analog-MOS SW -S	731A0525N0001	1	
131	IC17	OR-MN195006A/D-F	42217001	1	
132	IC18	STLC7550TQF7 Analog-MOSdata-F	7320068N0001	1	
133	RAM1,RAM2	4161204L-60TS Memory-MOSDRAM-S	8020003N4606	2	
134					
135	FLS1	FLASH MEM.IC	42365901	1	
136	CPU	HD6437034BP01F CPU-MOS (ROM) -F	8530421N0001	1	
137	IC13	LC821033 CPU-Interface -F	8550901N0001	1	
138	LC6	MT-SL/ZJSR5101-330 COMP PAR-LC -P	3421003K0330	1	
139	LC2, LC5, LC7, LC8	MT-Y/ZJSR5101-223 COMP PAR-LC -P	3421003N0223	4	
140	L1	LHL08TB-181K Coil-HF -P	3531001K0181	1	
141	L2	NL322522-100J-3 Coil-HF -C	353A4007J0100	1	
142	TR1~TR4, TR13	DTA114EKAT146 TR-PNP/H FREQ -C	6001035N0003	5	
143	TR9	2SA1162-Y TR-PNP/H FREQ -C	600A1025M0017Y	1	
144	TR14	2SA950-Y TR-PNP/H FREQ -	600A1125M0011Y	1	
145	TR18	2SB1375/B941/B1655 TR-PNP/L FREQ -	6011203M0001	1	

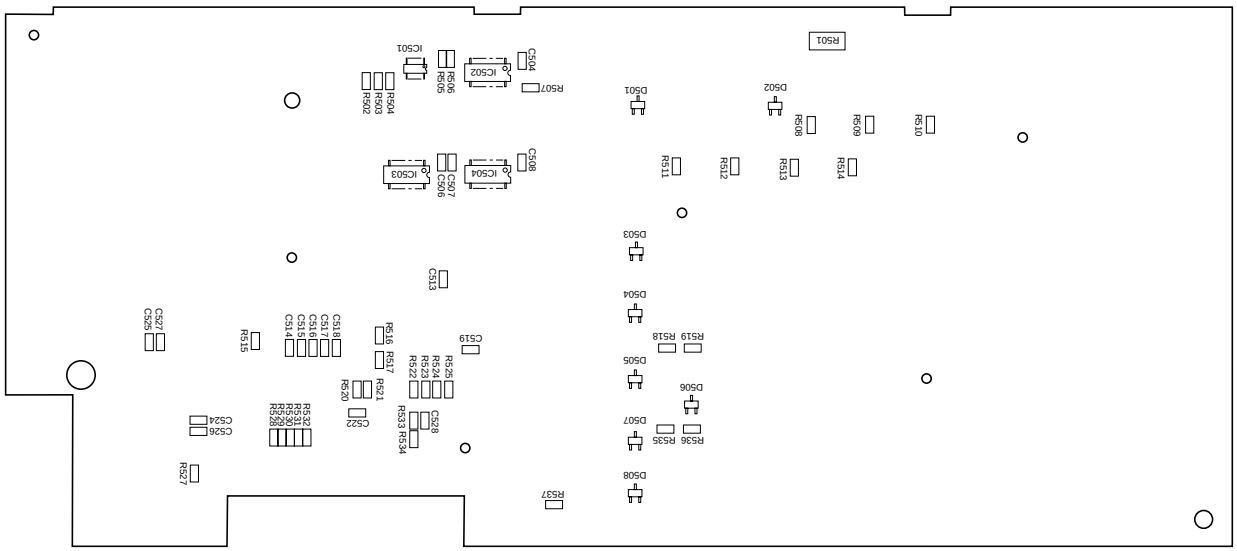
V60-PCB Assy (11/12)
(41989201)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
146	TR15	2SB1123 TR-PNP/L-FREQ -C	601A1032N0002	1	
147	TR11, TR16, TR17, TR19, TR20	2SC2712-Y/G TR-NPN/H-FREQ -C	602A1025M0033	5	
148	TR5	DTC124EKAT146 TR-NPN/H-FREQ -C	6021035N0004	1	
149	TR6	DTC114EKA TR-NPN/H-FREQ -C	602A1035N0005	1	
150	TR7, TR8, TR12	DTC123YK/YKAT146 TR-NPN/H-FREQ -C	6021003N0004	3	
151	CN2	SLD14S-2 Connector-PCB -	2243001P0140	1	
152	CN1	S15B-XH-A Connector-PCB -	2243014P0150	1	
153	CN15	06R-FJ Connector-PCB -	2243016P0060	1	
154	CN16	14R-FJ Connector-PCB -	2243016P0140	1	
155	CN14	IL-S-8P-S2T2-EF Connector-PCB -	224A3052P0080	1	
156	CN10	00-8263-0412-00-000 Connector-PCB -	224A3357P0040	1	
157	CN18	B2B-PH-K-S Connector-PCB -	224A3529P0020	1	
158	CN11	B3B-PH-K-S Connector-PCB -	224A3529P0030	1	
159	CN7	B6B-PH-K-S Connector-PCB -	224A3529P0060	1	
160	CN5	B10B-PH-K-S Connector-PCB -	224A3529P0100	1	
161	CN4	B16B-PH-K-S Connector-PCB -	224A3529P0160	1	
162	CN8	B2B-EH Connector-PCB -	224A3535P0020	1	
163	CN3	B4B-EH Connector-PCB -	224A3535P0040	1	
164	CN9	B6B-EH Connector-PCB -	224A3535P0060	1	
165	CN12	3-1470209-8 Connector-PCB -	224A4325P0300	1	

V60-PCB Assy (12/12)
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REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
166	CN6	4-1470209-8 Connector-PCB -	224A4325P0500	1	
167	X1	HC-49/U03C-20.00MHz OSC-Crystal -C	3801001B0003	1	
168	X201	HC-49/U03C-24.576MHz OSC-Crystal -C	3801001B0007	1	
169	BF3	SA-8506185/ZBF253 Filter-PW line-N	3771003P0001	1	
170	BAT1	CR2430-FT6 BATT-Primary -	455A3027P0001	1	
171	F1~F3	251-001 FUSE-	540A2208S1102	3	
172	EB1, EB2		LH-31313-17	2	
173	IC2	IOG73353F22 Digital IC-MOS-F	7024932N0001	1	
174	CN13	DM-2D4-N3210TT Socket-SEMICON-S	2451007P0720	1	
175					
176	RM12~RM22	ACA3216M4-300-T Core- -C	1055010C0001	11	
177	BF4, LC4, LC501, R75, R76, R728~R732, R95, R920~R923, R97, R98, R623, R45, R592, R578, R593, R663, R595, R723~R726	ACB1608M-300-T Filter-PW line-C	3775001P0001	28	
178			LP-7134	1	L=20mm





P60-PCB Assy. (1/4)
(41178601)

P60-PCB Assy. (2/4)
(41178601)

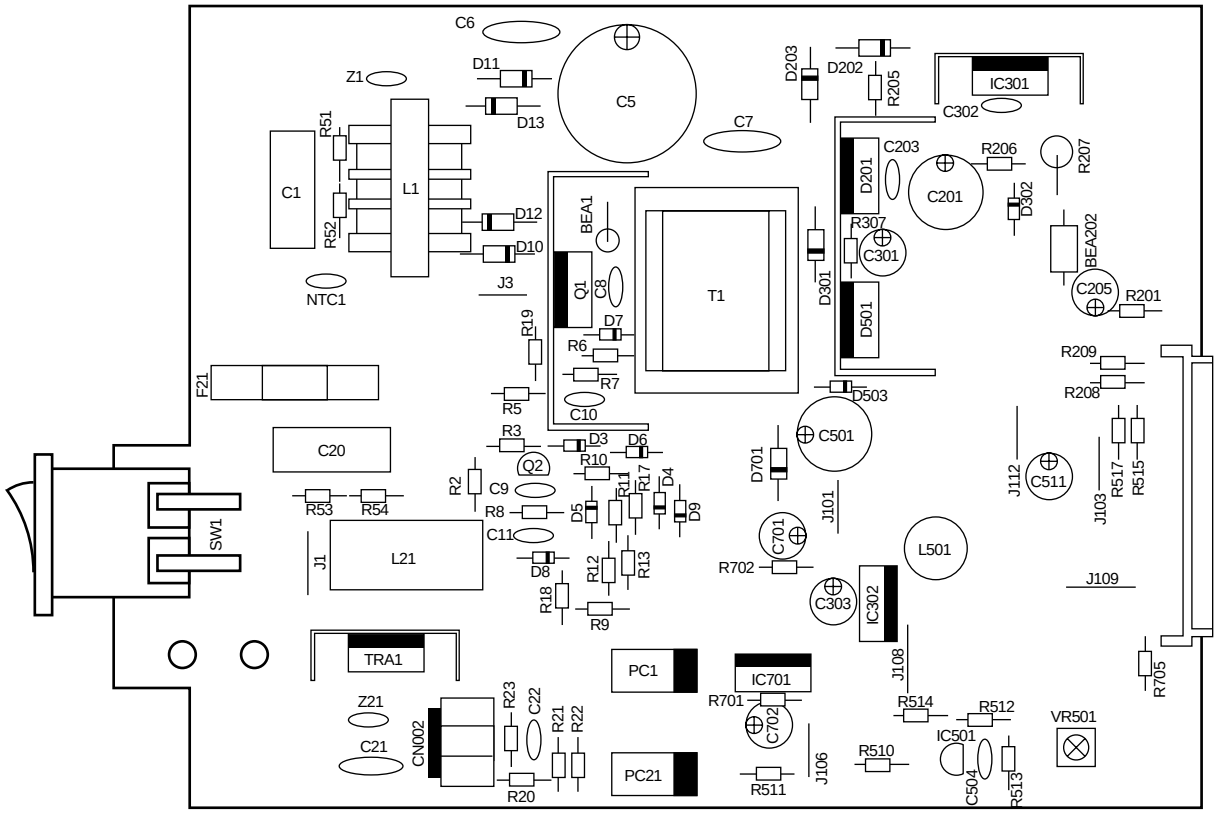
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D501~D508	SS100MA80VKCP D-Signal -C	611A0000N0002	8	
2					
3	R533	CR/RK73K/ERJ/MCRJ100 RES-MET RN -C	3235003J0100	1	
4	R515, R516, R530, R531	CR/RK73K/ERJ/MCRJ101 RES-MET RN -C	3235003J0101	4	
5	R506, R527	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	2	
6	R517~R519, R522~R525, R529, R532, R534~R537	CR/RK73K/ERJ/MCRJ103 RES-MET RN -C	3235003J0103	13	
7	R505	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
8	R504	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	1	
9	R502, R503, R507, R520, R528	CR/RK73K/ERJ/MCRJ473 RES-MET RN -C	3235003J0473	5	
10	R521	CR/RK73K/ERJ/MCRJ474 RES-MET RN -C	3235003J0474	1	
11	R501	RK73K2H/CR1/2-151J RES-MET RN -C	3235103J0151	1	
12	R508~R514	RM73B2A221J RES-MET RN -C	323A5003J0221	7	
13					
14	C514, C518	CC2012SL1H101J 50V CAP-Ceramic -C	303A3007K0101	2	
15	C528	CC2012SL1H221J 50V CAP-Ceramic -C	303A3007K0221	1	
16	C524~C527	CC2012SL1H471J 50V CAP-Ceramic -C	303A3007K0471	4	
17	C515~C517	CK2012B1H102K 50V CAP-Ceramic -C	303A6008K3102	3	
18	C506, C513	CK2012B1H472K 50V CAP-Ceramic -C	303A6008K3472	2	
19	C519	CC2012F1C474Z 16V CAP-Ceramic -C	303A6008Z1474	1	
20	C504, C507, C508, C522	CK2012F1H104Z 50V CAP-Ceramic -C	303A6008Z3104	4	

P60-PCB Assy. (3/4)
(41178601)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21					
22	CP1	50MS5-0.68M 50V CAP-Alum(CE) -	304A1046H1688	1	
23	CP4~CP6	KME25VB-47 25V CAP-Alum(CE) -47µF	304A1115E1470	3	
24					
25	IC502	74HC08FP Digital IC-MOS-S	702A1703N0008	1	
26	IC504	74HC32FP Digital IC-MOS-S	702A1703N0032	1	
27	IC503	74HC126FP Digital IC-MOS-S	702A1703N0126	1	
28	IC501	M51957AFP Analog-BIPLIN-S	7200022N0001	1	
29					
30			YB4134-1026P001	1	
31					
32	JP1, JP2	SMRJ-B-7/0.16-7X115 CONN PAR- -	238A1079P0001	2	
33					
34	SW45	ESE11SV1 Switch-Push -	2051002P1000	1	
35	SW1~SW44	EVQ11004K Switch-Push -P	2051004P1000	44	
36					
37	CN1	S16B-PH-K-S Connector-PCB -	224A3531P0160	1	
38					
39	OSC	CST6.00MGW121 OSC-Ceramic -	381A1048B0003	1	
40					

P60-PCB Assy. (4/4)
(41178601)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	L1	GL3HD8 PHOTO-LED -	650A0128M0030	1	
42	L2~L8	GL3HY8 PHOTO-LED -	650A0228M0010	7	
43					
44	IC1	M38002M2-420FP CPU-MOS (ROM) -F	8530183N0001	1	



MPW1561 (120V)-PCB Assy. (1/6)
(S1PS1433)

MPW1561 (120V)-PCB Assy. (2/6)
(S1PS1433)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	IC301	NJM78M24		1	
2	IC501	TA76431S		1	
3	IC302, IC701	µPC29M08		2	
4					
5	PC1	PC817		1	
6	PC21	S21ME6		1	
7					
8	D10~D13, D302	ERA15-06		5	
9	D501	YG811S06R		1	
10	D201	YG902C2R		1	
11	D3, D4, D6~D9	1SS133		6	
12	D301, D701	ERA83-006		2	
13	D202, D203	HZ-24		2	
14	D5	HZS9		1	
15	D503	HZ6		1	
16					
17	TRA1	SM12JZ47		1	
18					
19	Q2	2SC1741AS		1	
20	Q1	2SK3326		1	

MPW1561 (120V)-PCB Assy. (3/6)
(S1PS1433)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21					
22	Z1	ENC241		1	
23	Z21	ENC471		1	
24					
25	NTC1	NTH7D4R0		1	
26					
27	R19, R21, R22	1/4W 10Ω		3	
28	R9, R18, R511	1/4W 1kΩ		3	
29	R512, R515, R517	1/4W 10kΩ		3	
30	R201, R208, R209	1/4W 15kΩ		3	
31	R7	1/4W 180Ω		1	
32	R705	1/4W 220Ω		1	
33	R51~R54	1/4W 2.2MΩ		4	
34	R510	1/4W 470Ω		1	
35	R8	1/4W 33kΩ		1	
36	R10	1/4W 5.6kΩ		1	
37	R17, R701	1/4W 680Ω		2	
38	R2, R3	1/4W 180kΩ		2	
39	R5	1/4W 22kΩ		1	
40	R513, R514	1/4W 3.9kΩ		2	

MPW1561 (120V)-PCB Assy. (4/6)
(S1PS1433)

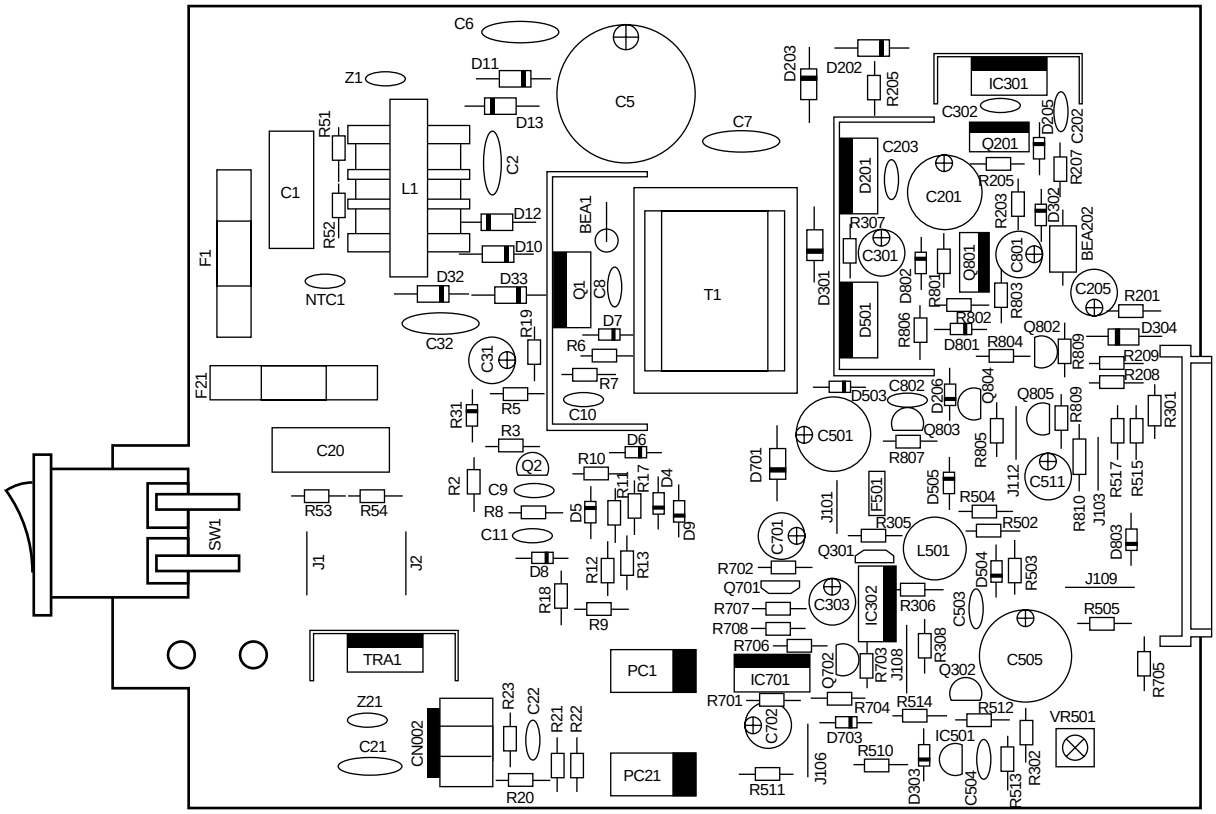
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	R6	1/4W 620Ω		1	
42	R11, R13	1/4W 7.5kΩ~11kΩ (TOTAL)		2	
43	R12	1/4W 22kΩ~56kΩ		1	
44	R20	1/6W 10Ω (FUSE)		1	
45	R23	1/6W 150Ω (FUSE)		1	
46	R207	2W 0.33Ω		1	
47					
48	VR501	1/10W 1kΩ		1	
49					
50	C11, C12	50V 100pF		2	
51	C8	1kV 220pF		1	
52	C203	500V 1000pF		1	
53	C302, C504	50V 0.1µF		2	
54	C21	1000pF (KH)		1	
55	C6	0.01µF (KH)		1	
56	C7	AC250V 3300pF(KX)		1	
57	C1, C20	AC250V 0.22µF(RE)		2	
58	C10	50V 0.01µF		1	
59	C9	50V 4700pF		1	
60	C205	50V 56µF (LXV)		1	

MPW1561 (120V)-PCB Assy. (5/6)
(S1PS1433)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
61	C303, C511, C702	35V 33µF (ZL)		3	
62	C501	35V 330µF (ZL)		1	
63	C301, C701	35V 56µF (ZL)		2	
64	C201	50V 150µF (ZL)		1	
65	C5	200V 330µF (KMG)		1	
66					
67	L1	ELF15N008A		1	
68	L21	SK-08MS-5Y		1	
69	L501	DP08005		1	
70					
71	T1	2D23		1	
72					
73	BEA1	BL02RN1		1	
74	BEA202	BL01RN1		1	
75					
76	F1, F501	AC125V 4.0A 19396		2	
77	F21	AC125V 8.0A 237		1	
78					
79	FH3, FH4	H0462		2	
80					

MPW1561 (120V)-PCB Assy. (6/6)
(S1PS1433)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
81	CN1	SS-7B		1	
82	CN002	B2P3-VH		1	
83	CN003	15JQ-ST		1	
84					
85	SW1	SJ-W2P4A-03BB2		1	
86					
87	C22, R205, R206, R307, R702	OPEN		5	
88					
89	PWB			1	



MPW1461 (230V)-PCB Assy. (1/7)
(S1PS1432)

MPW1461 (230V)-PCB Assy. (2/7)
(S1PS1432)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	IC301	NJM78M24		1	
2	IC501	TA76431S		1	
3	IC302, IC701	µPC29M08		2	
4					
5	PC1	PC123		1	
6	PC21	S21ME6		1	
7					
8	D10~D13, D32, D33, D302	ERA15-06		7	
9	D501	YG811S06R		1	
10	D201	YG902C2R		1	
11	D4, D6, D8, D9, D205, D206, D303, D304, D504, D505, D801	1SS133		11	
12	D301, D701	21DQ10		2	
13	D202, D203	HZ-24		2	
14	D31	RD120E		1	
15	D803	HZS2		1	
16	D703	HZS6		1	
17	D5	HZS9		1	
18	D802	HZS24		1	
19	D503	HZ6		1	
20					

MPW1461 (230V)-PCB Assy. (3/7)
(S1PS1432)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	TRA1	SM12JZ47		1	
22					
23	Q301	2SB1443		1	
24	Q701	2SD1862		1	
25	Q702	2SA933S		1	
26	Q302, Q802~Q805	2SC1740S		5	
27	Q2	2SC1741AS		1	
28	Q201, Q801	2SJ378		2	
29	Q1	2SK2717		1	
30	Q501	μPA1731G		1	
31					
32	Z1, Z21	ENC471		2	
33					
34	NTC1	NTH7D8R0		1	
35					
36	R19, R21, R22	1/4W 10Ω		3	
37	R18	1/4W 100Ω		1	
38	R301, R302, R504, R801, R804~R809	1/4W 1kΩ		10	
39	R305, R502, R515, R517, R703	1/4W 10kΩ		5	
40	R503	1/4W 560kΩ		1	

MPW1461 (230V)-PCB Assy. (4/7)
(S1PS1432)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	R207	1/4W 1MΩ		1	
42	R510, R704	1/4W 330Ω		2	
43	R201, R205, R208, R209	1/4W 15kΩ		4	
44	R306, R308	1/4W 180Ω		2	
45	R12	1/4W 15k~27kΩ		1	
46	R705	1/4W 220Ω		1	
47	R51, R52	1/4W 2.2MΩ		2	
48	R803	1/4W 2.2kΩ		1	
49	R706~R708	1/4W 270Ω		3	
50	R8, R512	1/4W 33kΩ		2	
51	R511, R810	1/4W 470Ω		2	
52	R206	1/4W 4.7kΩ		1	
53	R9	1/4W 4.7MΩ		1	
54	R10	1/4W 5.6kΩ		1	
55	R17, R701	1/4W 680Ω		2	
56	R203	1/4W 6.8kΩ		1	
57	R6	1/4W 330Ω		1	
58	R5	1/4W 33kΩ		1	
59	R513, R514	1/4W 3.9kΩ		2	
60	R2, R3	1/4W 470kΩ		2	

MPW1461 (230V)-PCB Assy. (5/7)
(S1PS1432)

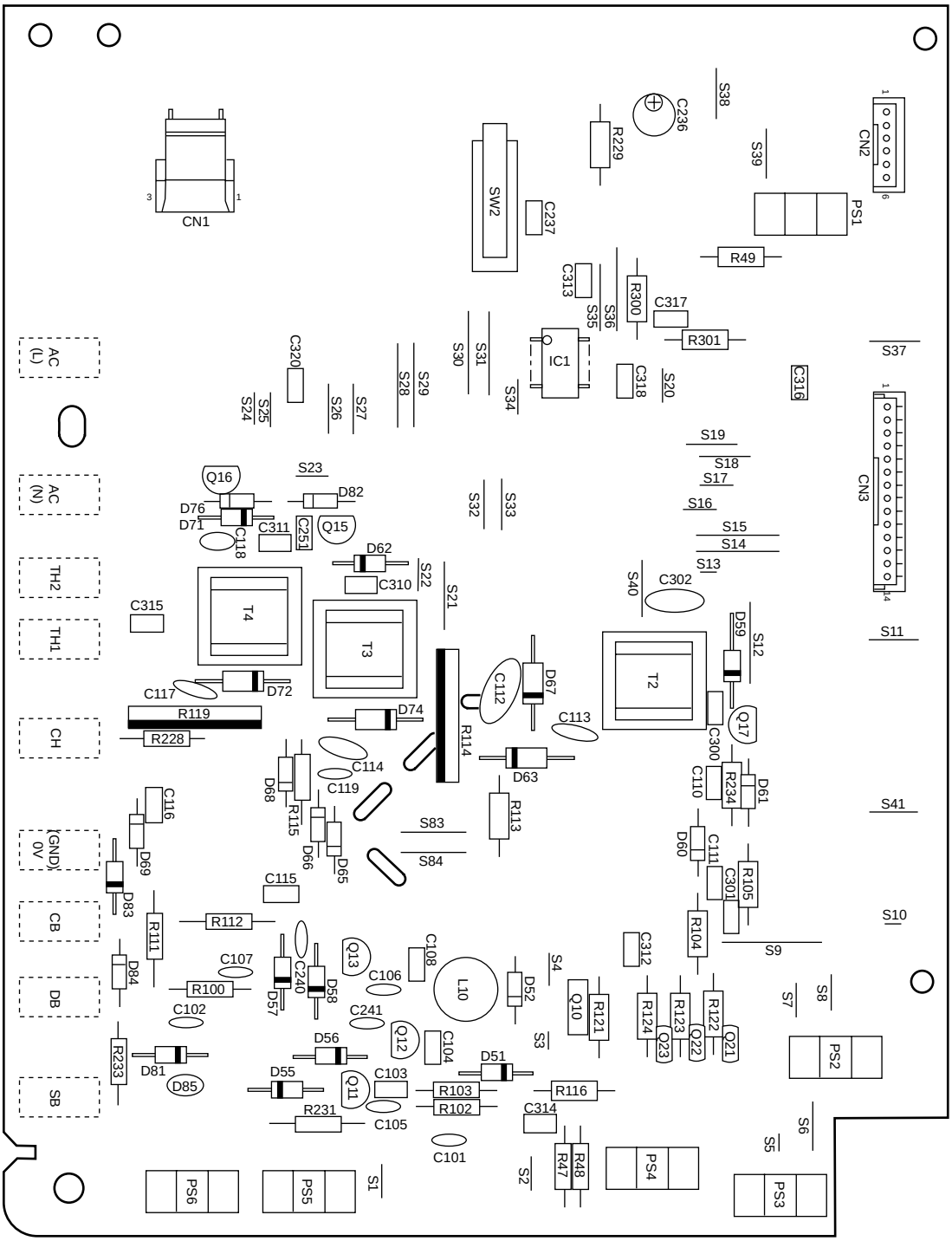
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
61	R802	1/4W 510kΩ		1	
62	R11, R13	1/4W 6.8kΩ~11kΩ (TOTAL)		2	
63	R20	1/6W 10Ω (FUSE)		1	
64	R23	1/6W 150Ω (FUSE)		1	
65	R505	1/6W 1Ω (FUSE)		1	
66					
67	VR501	1/10W 1KΩ		1	
68					
69	C11	50V 100pF		1	
70	C203	500V 1000pF		1	
71	C202, C302, C503, C504, C802	50V 0.1μF		5	
72	C21, C32	1000pF (KH)		2	
73	C2	2200pF (KH)		1	
74	C6	3300pF (KH)		1	
75	C8	2kV 47pF		1	
76	C7	AC250V 3300pF (KX)		1	
77	C1, C20	AC250V 0.22μF (RE)		2	
78	C10	50V 0.01μF		1	
79	C9	50V 4700pF		1	
80	C801	50V 1μF (LXA)		1	

MPW1461 (230V)-PCB Assy. (6/7)
(S1PS1432)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
81	C505	10V 1800µF (LXV)		1	
82	C205	50V 56µF (LXV)		1	
83	C31	400V 1µF (KMG)		1	
84	C303, C511, C702	35V 33µF (ZL)		3	
85	C501	35V 330µF (ZL)		1	
86	C301, C701	35V 56µF (ZL)		2	
87	C201	50V 150µF (ZL)		1	
88	C5	400V 68µF (KMG)		1	
89					
90	L1	ELF15N004A		1	
91	L501	DP08005		1	
92					
93	T1	2D24		1	
94					
95	BEA1	BL02RN1		1	
96	BEA202	BL01RN1		1	
97					
98	F501	AC125V 4.0A 19396		1	
99	F1	AC250V 2.5AH 215		1	
100	F21	AC250V 6.3A 215		1	

MPW1461 (230V)-PCB Assy. (7/7)
(S1PS1432)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
101	FH1~FH4	H0462		4	
102					
103	CN002	B2P3-VH		1	
104	CN003	15JQ-ST		1	
105	CN1	SS-7B		1	
106					
107	SW1	SJ-W2P4A-03BB2		1	
108					
109	C22, D7, R7, R53, R54, R307, R702	OPEN		7	
110					
111	PWB			1	



H08-PCB Assy. (1/5)
(41144801)

H08-PCB Assy. (2/5)
(41144801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D51, D55~D59, D62, D71, D81, D83	EU02A/RL105F-F D-Rectifying -Q	6100003M0001	10	
2	D52, D84	1ZB300-Y/Z D-Zener -	613A2003M0001	2	
3	D60, D61, D68, D69	1S953/1S2075K/1S2473 D-Signql -	611A0003L0001	4	
4	D63, D67, D72, D74	OR-DHM/ESJA/SHV-06	40681301	4	
5	D65, D66	1ZB390 D-Zener -	613A2258M0350	2	
6	D76	RD22E-B2 D-Zener -	613A1231L0262B	1	
7	D82	RD27E-B1 D-Zener -	613A1231L0282A	1	
8	D85	ERZ/JVR-05N471 SEMICO-Vari -	6320003M0001	1	
9					
10	R47~R49	RD1/4Y130ΩJ RES-Carbon flm -	321A1421J0131	3	
11	R100	RD1/4Y3MΩJ RES-Carbon flm -	321A1421J0305	1	
12	R102, R116, R121	RD1/4Y330ΩJ RES-Carbon flm -	321A1421J0331	3	
13	R103, R123	RD1/4Y1KΩJ RES-Carbon flm -	321A1421J0102	2	
14	R104	RD1/4Y75KΩJ RES-Carbon flm -	321A1421J0753	1	
15	R105	RD1/4Y24KΩJ RES-Carbon flm -	321A1421J0243	1	
16	R111, R112, R231	HMP1/4-106J RES-MET RN -	323A1029J0106	3	
17	R113	RD1/4Y100KΩJ RES-Carbon flm -	321A1421J0104	1	
18	R114, R119	MRH100MK/HV-38-100MK RES-MET solid -	3263103K0107	2	
19	R115	RNL1/4C3F390KΩ RES-MET RN -	323A1222F0394	1	
20	R122, R124, R229	RD1/4Y5.1KΩJ RES-Carbon flm -	321A1421J0512	3	

H08-PCB Assy. (3/5)
(41144801)

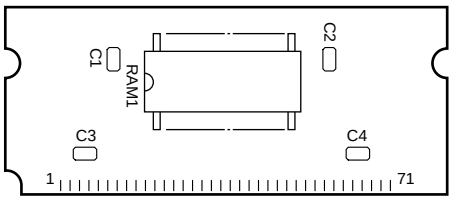
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	R228, R233	RD1/4Y1MΩJ RES-Carbon flm -	321A1421J0105	2	
22	R234	RD1/4Y33ΩJ RES-Carbon flm -	321A1421J0330	1	
23	R300	RNL1/4C3F1.0KΩ RES-MET RN -	323A1222F0102	1	
24	R301	RNL1/4C3F2.7KΩ RES-MET RN -	323A1222F0272	1	
25					
26	C101, C102, C106	HLY5P/DD05-500V-471K CAP-Ceramic -P	3024003K6471	3	
27	C103, C104, C108, C110, C111, C115, C237, C251, C300, C301, C310~C318, C320	MLRD/FK16Y5V1H104Z CAP-Ceramic -N	3034003Z3104	20	
28	C105, C107, C119	HNY5P/DE07-1KV-471K CAP-Ceramic -P	3024003K7471	3	
29	C112	DE1010B471K6K 6KV CAP-Ceramic -	302A4028K4471	1	
30	C113, C114, C117	DE07/HCYB3F471 CAP-Ceramic -Z	3024203K2471	3	
31	C116	MLRD/FK16Y5V1H473Z CAP-Ceramic -N	3034003Z3473	1	
32	C118	MY2A/CQMF/ECQP-103J CAP-Plast flm -P	3064003J2103	1	
33	C236	UVX/SME-63V-10µF 63V CAP-Alum (CE) -P	3041003J1100	1	
34	C240, C241	TLS/DD05-500V-390J CAP-Ceramic -P	3021003K6390	2	
35	C302	CQMF/MY2A/ECQP-472J CAP-Plast flm -P	3064003J2472	1	
36					
37	IC1	358P Analog-BIPLIN -	720A0000M0033	1	
38					
39	Q10	2SC2752 TR-NPN/H-FREQ -	602A1223M0039	1	

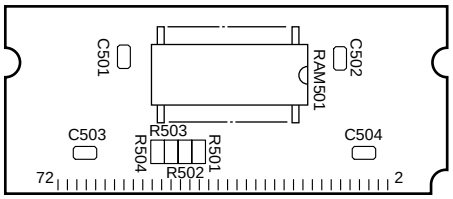
H08-PCB Assy. (4/5)
(41144801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
40	Q11, Q13	BCR1AM-12/MAC97-008 THY-Bi/Dir -	622A0003M0001	2	
41	Q12	CR04AM-12 THY-Gate -	620A0022M0008	1	
42	Q15~Q17	2SC2235-Y TR-NPN/H-FREQ -	602A1125M0039Y	3	
43	Q21~Q23	2SC1740S TR-NPN/H-FREQ -	602A1035M0002	3	
44					
45	PS1~PS6	RPI-574/#9568 PHOTO-Coupler -	652A0103M0002	6	
46					
47	L10	C-14576/SA-8506183 Coil-Choke -	3502003P0102	1	
48					
49	T2~T4	HIGH VOLTAGE TRANSFORMER	YB4049-7078P003	3	
50					
51	CN1	S2P3-VH Connector-PCB -	2243019P0020	1	
52	CN2	06PL-FJ Connector-PCB -	2243027P0060	1	
53	CN3	14PL-FJ Connector-PCB -	2243027P0140	1	
54					
55	SW2	SM-05S-04A-9 Switch-Micro -	207A2020P0001	1	
56					
57	S83, S84	SHORT WIRE	TA-0.6	2	
58	S3, S5, S10, S13	SHORT WIRE	TA-0.6	4	
59	S1, S2, S4, S7, S8, S16, S17, S20, S22~S25, S34	SHORT WIRE	TA-0.6	13	

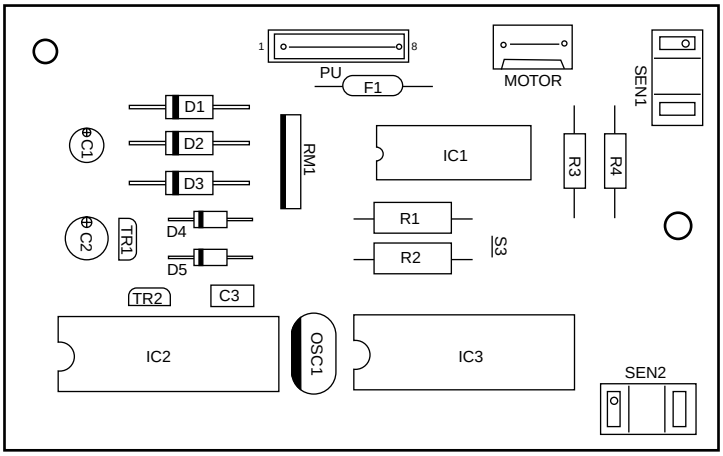
H08-PCB Assy. (5/5)
(41144801)

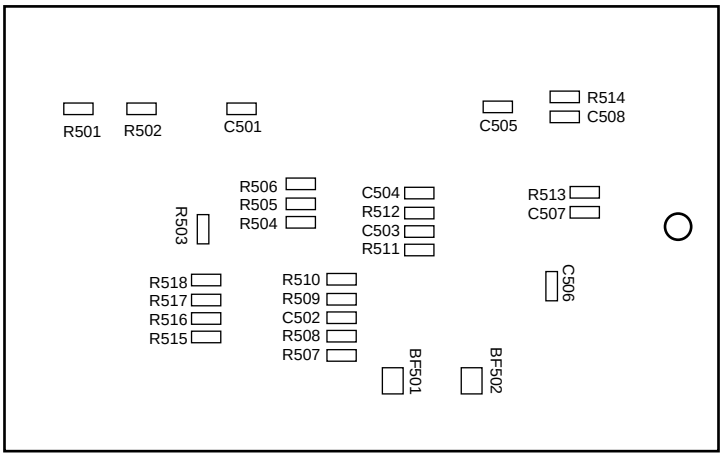
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
60	S6, S11, S18, S19, S26, S27, S32, S33, S37~S41	SHORT WIRE	TA-0.6	13	
61	S21, S35	SHORT WIRE	TA-0.6	2	
62	S12, S14, S15, S28~S31, S36	SHORT WIRE	TA-0.6	8	
63	S9	SHORT WIRE	TA-0.6	1	





RA1-PCB Assy. (1/1)
(40691901~40691903)





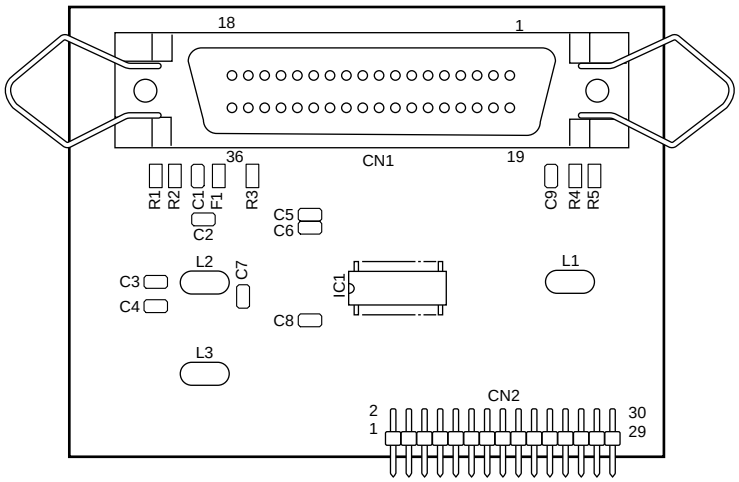
TQSB-PCB Assy. (1/3)
(4YA5505-3362G001)

TQSB-PCB Assy. (2/3)
(4YA5505-3362G001)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	D1~D3	EM01Z/SM1XN02/DSM1D2 Rectifying Diode	610A0003M0001	3	
2	D5	RD3.9E-B Zener Diode	613A1231L0082	1	
3	D4	1S953/1S2075K/1S2473 Signal Diode	611A0003L0001	1	
4					
5	R513, R514	RM73B2A473J RN Resistor (CP)	323A5003J0473	2	
6	R1, R2	MSF1/2B0.51_J RS Resistor (CP)	324A1001J0518	2	
7	R503, R511, R512	RM73B2A102J RN Resistor (CP)	323A5003J0102	3	
8	R3, R4	RD1/4Y180_J RD Resistor	321A1421J0181	2	
9	R501, R502, R508~R510, R515~R518	RM73B2A103J RN Resistor (CP)	323A5003J0103	9	
10	R506	RM73B2A123J RN Resistor (CP)	323A5003J0123	1	
11	R505	RM73B2A561J RN Resistor (CP)	323A5003J0561	1	
12	R507	RM73B2A153J RN Resistor (CP)	323A5003J0153	1	
13	R504	RM73B2A271J RN Resistor (CP)	323A5003J0271	1	
14	RM1	MRM-4-512JA Block Resistor	334A3266J0512	1	
15					
16	C1	SXE50VB-10-4D-FC CE Capacitor 50V 10µF	304A1008H1100	1	
17	C2	10MS5-33M CE Capacitor 10V 33µF	304A1046A1330	1	
18	C3	RPE122-127E334M50 CK Capacitor 0.33µV	303A4116M3334	1	
19	C503, C504, C507, C508	CK2012B1H102K CK Capacitor (CP) 50V	303A6008K3102	4	
20	C502	CC2012SL1H471J CC Capacitor (CP) 50V	303A3007K0401	1	

TQSB-PCB Assy. (3/3)
(4YA5505-3362G001)

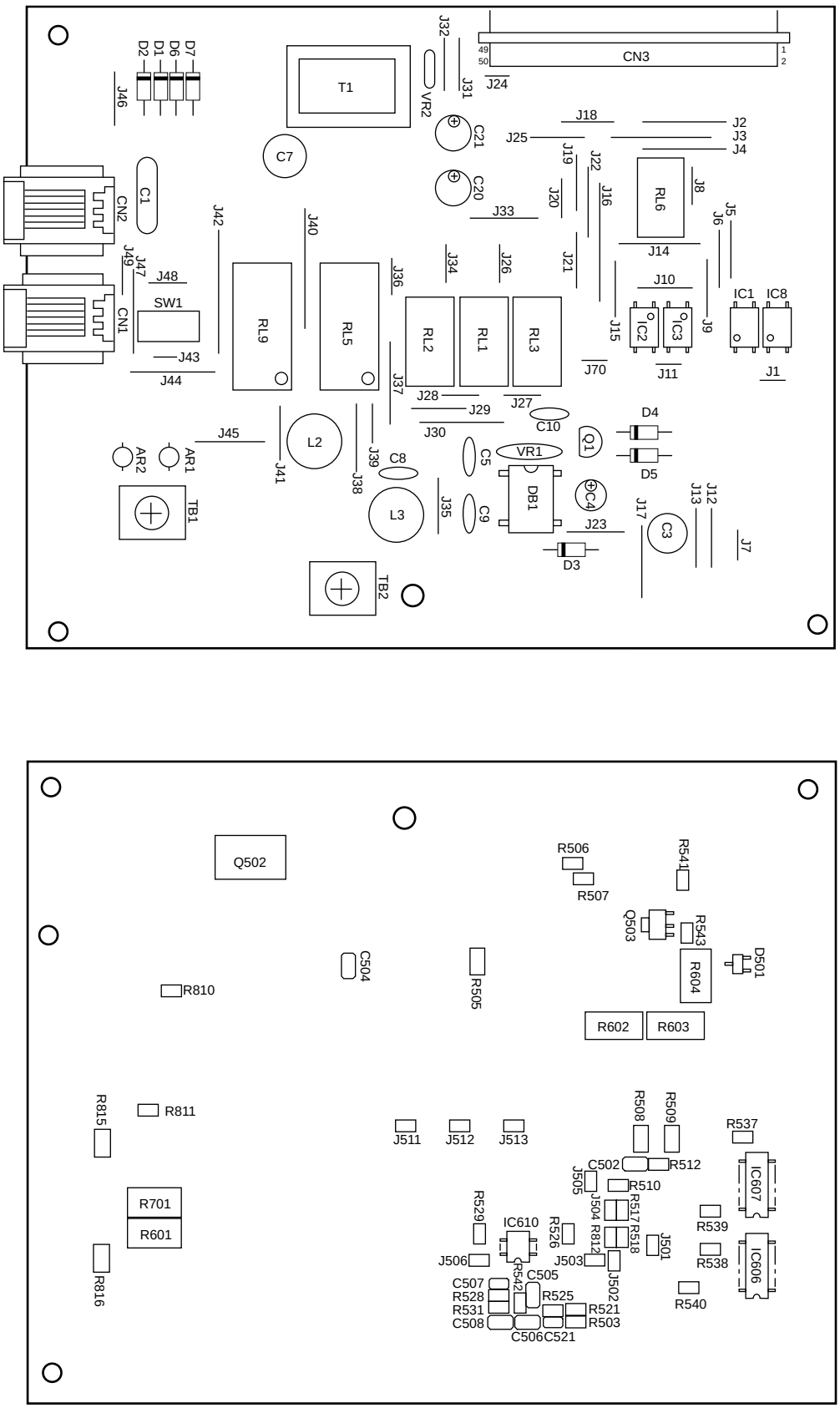
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	C501, C505, C506	CK2012F1E104Z CK Capacitor (CP) 25V	303A6008Z2104	3	
22					
23	IC3	M54646AP BIP Linear IC	720A1822M0002	1	
24	IC1	74LS38P BIP Digital IC	700A0503M0038	1	
25	IC2	LC6543N-4E07 MOS-CPU (ROM)	853A0036M0003	1	
26					
27	BF501, BF502	CB30-322513 Beads Core	105A5001C1001	2	
28					
29	SEN1, SEN2	SG-206 Photo Coupler	652A0114M0003	2	
30					
31	TR1, TR2	DTA114S PNP-HF-TR	600A1035M0005	2	
32					
33	OSC1	CST4.00MGW Oscillator, Ceramic	381A1025B0002	1	
34					
35	F1	251-001 Fuse	540A2208S1102	1	
36					
37	MOTOR	00-8263-0412-00-000 PC Connector	224A3357P0040	1	
38					
39	PU	1L-S-8P-S2T2-EF PC Connector	224A3052P0080	1	
40	S3	Short Wire (Utype) P=2.5	KH-31036-25	1	



CT2-PCB Assy. (1/2)
(42161601)

CT2-PCB Assy. (2/2)
(42161601)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	R3	CR/RK73K/ERJ/MCRJ332 RES-MET RN -C	3235003J0332	1	
2	R1, R2, R4, R5	CR/RK73Z/ERJ/MCRJ-0V RES-Zero ohm -C	3255003P0001	4	
3					
4					
5	C1~C9	GRM/TMK/MCH/104Z 25V CAP-Ceramic -C	3036003Z0104	9	
6					
7					
8	IC1	SN74LVC161284DGGR Digital IC-MOS-S	7022350N1284	1	
9					
10	L1~L3	SA-8506185/ZBF253 Filter-PW line-N	3771003P0001	3	
11					
12					
13	F1	TR/0603FA-1A FUSE- -C	5402210S0102	1	
14					
15	CN1	57GE-40360-853BD100A Connector-SQR -	2201002P0361	1	
16	CN2	1-176837-4 Connector-PCB -	224A4335P0300	1	



EN2-PCB Assy. (1/5)
(42310801)

EN2-PCB Assy. (2/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	AR1, AR2	SRH412-501MFT ARRESTER- -P	5431004G0501	2	
2					
3	C1	ECQ-E2474KF 250V CAP-Plast flm -	306A2221K5474	1	
4	C3	SME10VB-100BP-OA 10V CAP-Alum(CE) -	304A1122A1101	1	
5	C4	TC04RSME50VB4R7MF50 CAP-Alum(CE) -P	3041010H1479	1	
6	C5, C9	ECQB1473JF3 100V CAP-Plast flm -P	3062002J2473	2	
7	C7	UVP2A2R2 100V CAP-Alum(CE) -P	3041203A2229	1	
8	C8	ECQB1223JF3 100V CAP-Plast flm -P	3062002J2223	1	
9	C10	ECQB1153JF3 100V CAP-Plast flm -P	3062002J2153	1	
10	C20, C21	UVX/SME-16V-47uF 16V CAP-Alum(CE) -P	3041003C1470	2	
11	C502	GRM21BB11E124KA01L CAP-Ceramic -C	3036001K2124	1	
12	C504	CK2012B1H153K 50V CAP-Ceramic -C	303A6008K3153	1	
13	C505	GRM2192CH122JD01D CAP-Ceramic -C	3033001C0122	1	
14	C506, C508	CK2012F1E224Z 25V CAP-Ceramic -C	303A6008Z2224	2	
15	C507	GRM/UMK/MCH/332B 50V CAP-Ceramic -C	3036003K0332	1	
16	C521	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	1	
17					
18	CN1, CN2	52830-6625/TM5RE2VX Connector-Plug-	2233003P0001	2	
19	CN3	2-176837-4 Connector-PCB -	224A4335P0500	1	
20					

EN2-PCB Assy. (3/5)
(42310801)

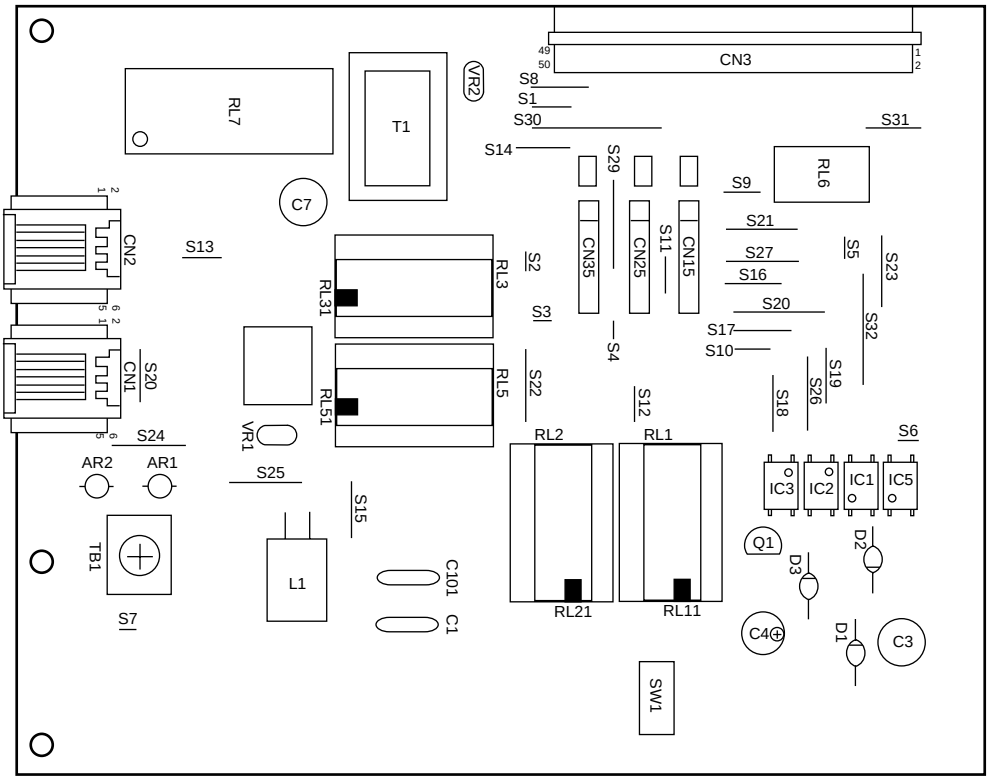
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	D1, D2	RD20E-B D-Zener -	613A1231L0252	2	
22	D3	RD6.2F-B D-Zener -	613A2232L0132	1	
23	D4	RD5.1E-B2 D-Zener -	613A1231L0112B	1	
24	D5	E-152 D-Signal -	611A0037L0011	1	
25	D6, D7	RD3.9E-B2 D-Zener -	613A1231L0082B	2	
26	D501	SS100MA80VSCP D-Signal -C	611A0000N0003	1	
27	DB1	S1WBA60 D-Rectifying -	610A1027M0002D	1	
28					
29	IC1	TLP621 PHOTO-Coupler -	6520125M0003	1	
30	IC2, IC3	PS2532-1/TLP627 PHOTO-Coupler -	6523103M0003	2	
31	IC8	PS2525-1/TLP320 PHOTO-Coupler -	6520103M0002	1	
32	IC606, IC607	LB1233M/TD62003AF ARRAY-TR -B	7600003N0701	2	
33	IC610	NJM4558M Analog-BIPLIN -S	720A0028N0039	1	
34	L2	LHL08TB-682J Coil-HF -P	3531001J0682	1	
35	L3	LHL08TB-222J Coil-HF -P	3531001J0222	1	
36	Q1	2SD1209K TR-NPN/L-FREQ -	603A1121M0010	1	
37	Q502	2SA1727/2SA1700-TL TR-PNP/H FREQ -C	6001103N0002	1	
38	Q503	2SA1384-O(TE12R,C) TR-PNP/H FREQ -C	6001025N0002	1	
39	R503	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
40	R505	RM73B2A303J RES-MET RN -C	323A5003J0303	1	

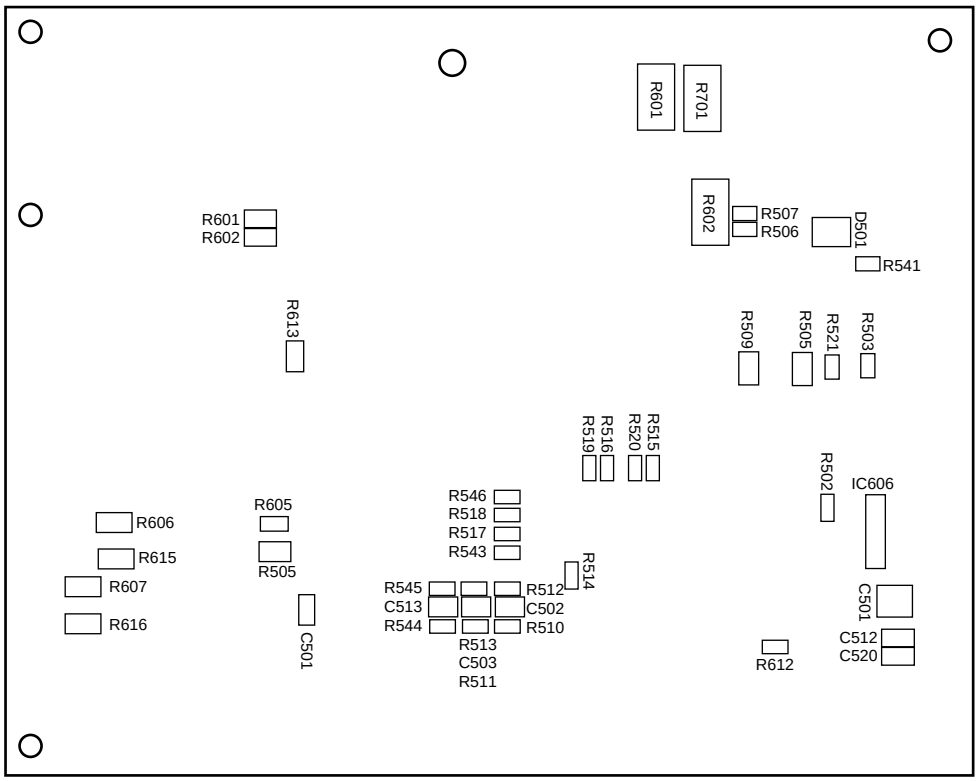
EN2-PCB Assy. (4/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
41	R506	CR/RK73H/ERJ/MCRF243 RES-MET RN -C	3235003F0243	1	
42	R507	CR/RK73K/ERJ/MCRJ363 RES-MET RN -C	3235003J0363	1	
43	R508, R509	RM73B2A271J RES-MET RN -C	323A5003J0271	2	
44	R510	CR/RK73H/ERJ/MCRF271 RES-MET RN -C	3235003F0271	1	
45	R512	CR/RK73H/ERJ/MCRF751 RES-MET RN -C	3235003F0751	1	
46	R517	CR/RK73K/ERJ/MCRJ562 RES-MET RN -C	3235003J0562	1	
47	R518	CR/RK73K/ERJ/MCRJ123 RES-MET RN -C	3235003J0123	1	
48	R521	CR/RK73K/ERJ/MCRJ393 RES-MET RN -C	3235003J0393	1	
49	R525	CR/RK73K/ERJ/MCRJ203 RES-MET RN -C	3235003J0203	1	
50	R526	CR/RK73K/ERJ/MCRJ512 RES-MET RN -C	3235003J0512	1	
51	R528	CR/RK73H/ERJ/MCRF912 RES-MET RN -C	3235003F0912	1	
52	R529	CR/RK73K/ERJ/MCRJ104 RES-MET RN -C	3235003J0104	1	
53	R531	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	1	
54	R537~R540	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	4	
55	R542	CR/RK73K/ERJ/MCRJ183 RES-MET RN -C	3235003J0183	1	
56	R543	CR/RK73K/ERJ/MCRJ105 RES-MET RN -C	3235003J0105	1	
57	R601	MCR100JZH J303 RES-MET RN -C	3235040J0303	1	
58	R602	MCR100JZH J5R1 RES-MET RN -C	3235040J0519	1	
59	R603	MCR100JZH J430 RES-MET RN -C	3235040J0430	1	
60	R604	MCR100JZH J220 RES-MET RN -C	3235040J0220	1	

EN2-PCB Assy. (5/5)
(42310801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
61	R701	MCR100JZH J680 RES-MET RN -C	3235040J0680	1	
62	R815, R816	2125JPW RES-MET RN -C	323A5003P0001	2	
63	RL1~RL3	BA-5W-K/ATXD209/EC2 Relay-General -	2601003P1000	3	
64	RL5, RL9	OR-AJQ1349/VE-5HS-K	41824301	2	
65	RL6	AHY109/SY-5W-K Relay-General -	2601103P1000	1	
66	SW1	OR-DIPSWITCH	42321001	1	
67	T1	OR-MST001AR/SR-422	41883701	1	
68	VR1	ERZV10D680 SEMICO-Vari -	6320229M0025	1	
69	VR2	ERZV07D220 SEMICO-Vari -	6320229M0011	1	
70	J501~J506, J511~J513	CR/RK73Z/ERJ/MCRJ-0V RES-Zero ohm -C	3255003P0001	9	
71	J1, J7, J11, J24, J43, J70, S7	SHORT WIRE	TA-0.6	7	L=55mm P=5.08mm
72	J8, J20, J26~J28, J34, J36, J39, J48, J49	SHORT WIRE	TA-0.6	10	L=55mm P=7.62mm
73	J5, J6, J9, J10, J12, J13, J15, J18, J19, J21, J23, J25, J29, J31, J32, J35, J41, J46	SHORT WIRE	TA-0.6	18	L=55mm P=10.16mm
74	J17, J22, J33, J38, J45	SHORT WIRE	TA-0.6	5	L=55mm P=12.7mm
75	J2, J4, J14, J30, J37, J44, J47	SHORT WIRE	TA-0.6	7	L=55mm P=15.24mm
76	J3	SHORT WIRE	TA-0.6	1	L=55mm P=17.78mm
77	J16	SHORT WIRE	TA-0.6	1	L=55mm P=20.32mm
78	J40, J42	SHORT WIRE	TA-0.6	2	L=55mm P=21.59mm





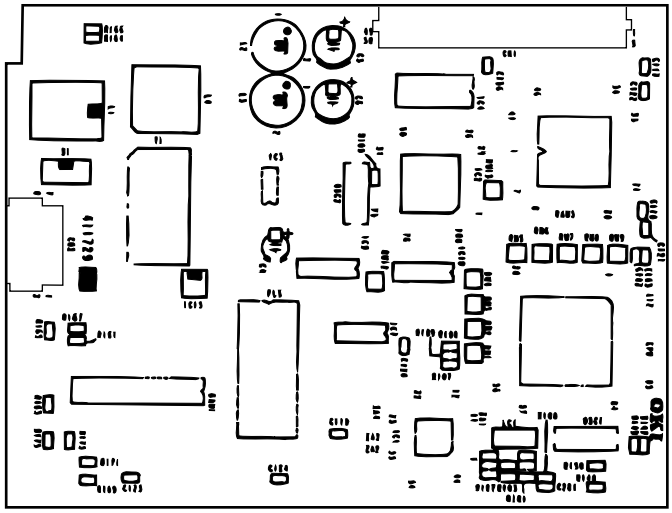
INU-PCB Assy. (1/3)
(41144501)

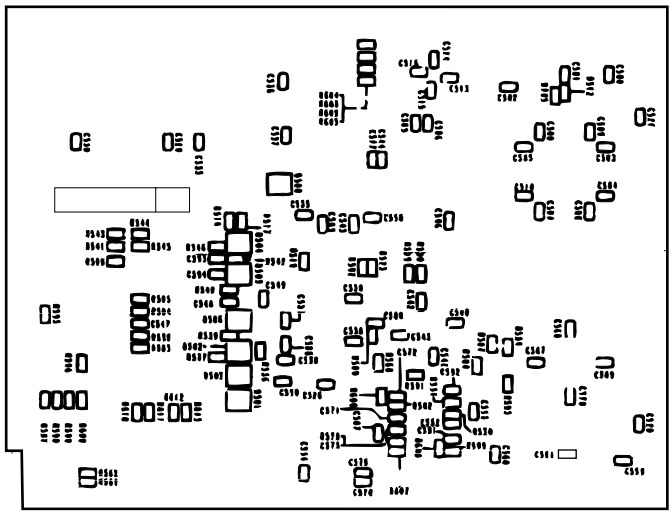
INU-PCB Assy. (2/3)
(41144501)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	AR1, AR2	SRH412-501MFT ARRESTER- -P	5431004G0501	2	
2	C1	ECQ-E2474KF 250V CAP-Plast flm -	306A2221K5474	1	
3	C3	SME10VB-100BP-0A 10V CAP-Alum(CE) -	304A1122A1101	1	
4	C4	UVR1H2R2 50V CAP-Alum(CE) -P	3041003H1229	1	
5	C5	ECQB1473JF3 100V CAP-Plast flm -P	3062002J2473	1	
6	C7	UVP2A2R2 100V CAP-Alum(CE) -P	3041203A2229	1	
7	C501	CK2012R1H223K 50V CAP-Ceramic -C	303A6008K3223	1	
8	CN1, CN2	52830-6625/TM5RE2VX Connector-Plug -	2233003P0001	2	
9	CN3	2-176837-4 Connector-PCB -	224A4335P0500	1	
10	D1, D2	RD20E-B D-Zener -	613A1231L0252	2	
11	D3	RD12E-B2 D-Zener -	613A1231L0202B	1	
12	D501	SS100MA80VSCP D-Signal -C	611A0000N0003	1	
13	DB1	S1WBA60 D-Rectifying -	610A1027M0002D	1	
14	IC1	PC123YS/TLP621 PHOTO-Coupler -	6520103M0001	1	
15	IC2, IC3	PS2532-1/TLP627 PHOTO-Coupler -	6523103M0003	2	
16	IC5	PS2525-1/TLP320 PHOTO-Coupler -	6520103M0002	1	
17	IC606	LB1233M-TE-L ARRAY-TR -B	7600031N0701	1	
18	Q1	2SD1209K TR-NPN/L-FREQ -	603A1121M0010	1	
19	Q501	DTC323TK/RN1444-B TR-NPN/H-FREQ -C	6021003N0003	1	
20	R502	CR/RK73K/ERJ/MCRJ222 RES-MET RN -C	3235003J0222	1	

INU-PCB Assy. (3/3)
(41144501)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21	R503	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
22	R505	RM73B2A303J RES-MET RN -C	323A5003J0303	1	
23	R506, R521	CR/RK73K/ERJ/MCRJ203 RES-MET RN -C	3235003J0203	2	
24	R507	CR/RK73K/ERJ/MCRJ363 RES-MET RN -C	3235003J0363	1	
25	R508, R509	RM73B2A271J RES-MET RN -C	323A5003J0271	2	
26	R511	CR/RK73H/ERJ/MCRF301 RES-MET RN -C	3235003F0301	1	
27	R514	CR/RK73H/ERJ/MCRF201 RES-MET RN -C	3235003F0201	1	
28	R517	CR/RK73H/ERJ/MCRF752 RES-MET RN -C	3235003F0752	1	
29	R518	CR/RK73H/ERJ/MCRF133 RES-MET RN -C	3235003F0133	1	
30	R601	MCR100JZH J303 RES-MET RN -C	3235040J0303	1	
31	R602	MCR100JZH J680 RES-MET RN -C	3235040J0680	1	
32	R801, R802, R815, R816	2125JPW RES-MET RN -C	323A5003P0001	4	
33	RL1~RL3, RL5	AJQ1349 Relay-General -	2601009P1000	4	
34	RL6	AHY109/SY-5W-K Relay-General -	2601103P1000	1	
35	T1	SR-422 TFORMER-LF -	3613000P0001	1	
36	TB1	P-97 CONN PAR- -	230A6021P0002	1	
37	VR1	ERZV10D680 SEMICO-Vari -	6320229M0025	1	
38	VR2	ERZV07D220 SEMICO-Vari -	6320229M0011	1	
39	S1~S32	SHORT WIRE	TA-0.6	32	L=55mm





G4N-PCB Assy. (1/4)
(41033701)

G4N-PCB Assy. (2/4)
(41033701)

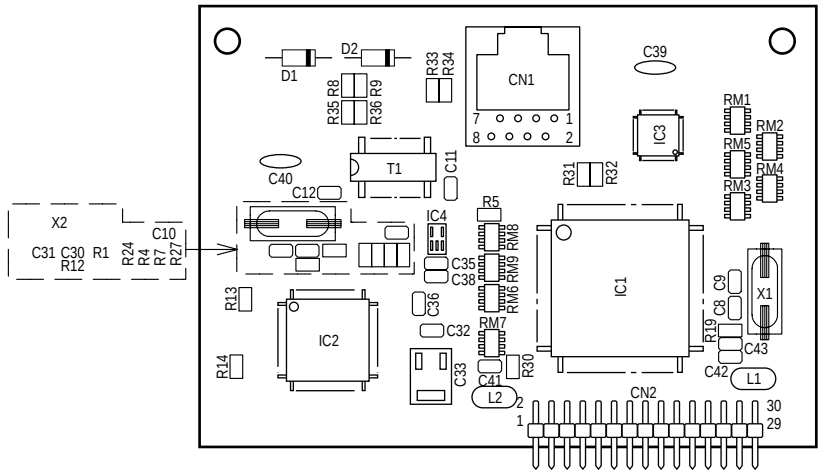
REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	CN1	2-176837-4 Connector-PCB -	224A4335P0500	1	
2	CN2	TM5RJ-88 Connector-Plug -	2233010P0001	1	
3	C3, C6	KMG10VB-470M-FC 10V CAP-Alum(CE) -	304A1180A1471	2	
4	C4	UVX/SME25VB-22-0A CAP-Alum(CE) -P	3041103E1220	1	
5	C500, C501	GRM/UMK/MCH/050CH CAP-Ceramic -C 5pF	3033003C0050	2	
6	C538	GRM/UMK/MCH/220CH CAP-Ceramic -C	3033003C0220	1	
7	C539	GRM/UMK/MCH/270CH CAP-Ceramic -C	3033003C0270	1	
8	C593, C594	GRM/UMK/MCH/470CH CAP-Ceramic -C	3033003C0470	2	
9	C182, C183, C281, C577, C580, C585~588	GRM/UMK/MCH/680CH CAP-Ceramic -C	3033003C0680	9	
10	C503, C504, C508, C509, C513, C514, C530, C537, C540, C541, C558, C561, C567, C568, C595, C596	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	16	
11	C571, C592	GRM/UMK/MCH/561B 50V CAP-Ceramic -C	3036003K0561	2	
12	C591	GRM/UMK/MCH/332B 50V CAP-Ceramic -C	3036003K0332	1	
13	C552, C572	GRM/LMK/MCH/105Z 10V CAP-Ceramic -C	3036003Z0105	2	
14	C117~C125, C156, C502, C505~C507, C510, C515, C516, C526~C529, C533, C535, C536, C542~C546, C548~C551, C553, C554, C559, C560, C569, C570, C573, C578, C579, C590, C597	GRM/TMK/MCH/104Z 25V CAP-Ceramic -C	3036003Z0104	44	
15	R582	CR/RK73H/ERJ/MCRF203 RES-MET RN -C	325003F0203	1	
16	R579	CR/RK73H/ERJ/MCRF303 RES-MET RN -C	3235003F0303	1	
17	R609	CR/RK73H/ERJ/MCRF622 RES-MET RN -C	3235003F0622	1	

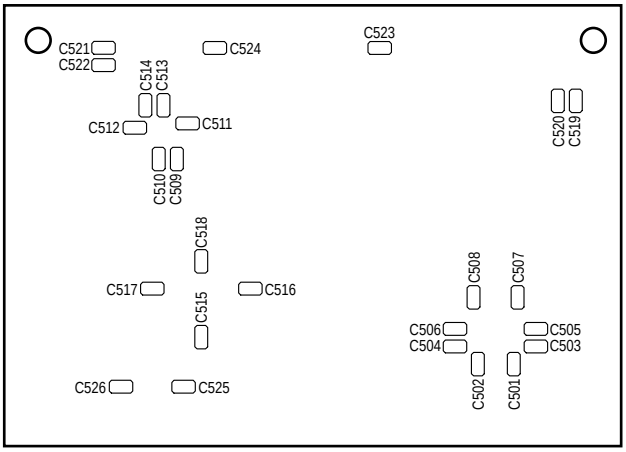
G4N-PCB Assy. (3/4)
(41033701)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
18	R607	CR/RK73H/ERJ/MCRF621 RES-MET RN -C	3235003F0621	1	
19	R593, R594	CR/RK73K/ERJ/MCRJ102 RES-MET RN -C	3235003J0102	2	
20	R189	CR/RK73K/ERJ/MCRJ105 RES-MET RN -C	3235003J0105	1	
21	R589	CR/RK73K/ERJ/MCRJ152 RES-MET RN -C	3235003J0152	1	
22	R102	CR/RK73K/ERJ/MCRJ181 RES-MET RN -C	3235003J0181	1	
23	R608	CR/RK73K/ERJ/MCRJ164 RES-MET RN -C	3235003J0164	1	
24	R100, R101, R103, R104	CR/RK73K/ERJ/MCRJ220 RES-MET RN -C	3235003J0220	4	
25	R531	CR/RK73H/ERJ/MCRF243 RES-MET RN -C	3235003F0243	1	
26	R536	CR/RK73K/ERJ/MCRJ303 RES-MET RN -C	3235003J0303	1	
27	R530	CR/RK73H/ERJ/MCRF513 RES-MET RN -C	3235003F0513	1	
28	R537, R539	CR/RK73K/ERJ/MCRJ300 RES-MET RN -C	3235003J0300	2	
29	R706	CR/RK73K/ERJ/MCRJ393 RES-MET RN -C	3235003J0393	1	
30	R512	CR/RK73K/ERJ/MCRJ471 RES-MET RN -C	3235003J0471	1	
31	R559, R560, R606	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	3	
32	R188, R519, R587, R588, R590~R592	CR/RK73K/ERJ/MCRJ473 RES-MET RN -C	3235003J0473	7	
33	R546	CR/RK73K/ERJ/MCRJ623 RES-MET RN -C	3235003J0623	1	
34	R540, R542	CR/RK73K/ERJ/MCRJ822 RES-MET RN -C	3235003J0822	2	
35	R107~R109, R147~R150, R161, R163, R165, R167, R169, R171, R173, R175, R187, R208~R215, R523, R583~R586, R597~R600, R602~R605, R705, R707~R718	CR/RK73Z/ERJ/MCRJ-0V RES-0Ω -C	3255003P0001	50	

G4N-PCB Assy. (4/4)
(41033701)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
36	RM1~RM9	CN1J4/EXBV8V22ΩJ RES-Block -C	3345003J0220	9	
37	RM12, RM13	CN1J4/EXBV8V47KΩJ RES-Block -C	3345003J0473	2	
38	D500~D506	SS100MA80VSCP D-Signal -C	611A0000N0003	7	
39	TR1	DTC114EKA TR-NPN/H-FREQ -C	602A1035N0005	1	
40	IC1	LSI2032E-110LT44-D03 Memory-PLA -F	8180338N0003	1	
41	IC2	YTD423D-S CPU-Interface -F	8550846N0001	1	
42	IC3	YTD421B-E Analog-MOSdata -S	7324046N0001	1	
43	IC4	MSM7507-01GS-K Analog-MOSdata -S	7324024N0001	1	
44	IC7	74HC14FP Digital IC-MOS -S	702A1703N0014	1	
45	IC9, IC10	74HC244FP Digital IC-MOS -S	702A1703N0244	2	
46	RAM1	OR-Mrmory-MOSDRAM-S	41087601	1	
47	RAM3	71321LA55J Memory-MOSSRAM -L	8040003N4301	1	
48	FLS	FLASH MEM. IC	41317101	1	
49	CPU	HD6437034AE08F CPU-MOS (ROM) -F	8530432N0005	1	
50	OSC1	HC-49/U03C-19.66MHz OSC-Crystal -C	3801001B0002	1	
51	OSC2	HC-49/U03C-12.288MHz OSC-Crystal -C	3801001B0001	1	
52	LC1, LC2	MT-Y223NB COMP PAR-LC -	342A1013N0223	2	
53	T1	PE-65795 TFORMER-Pulse -S	3655000P0001	1	
54	L2, L3	LHL10-102J Coil-HF -	353A1013J0102	2	





ICP-PCB Assy. (1/3)
(42161801)

ICP-PCB Assy. (2/3)
(42161801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
1	R1	CR/RK73H/ERJ/MCRF101 RES-MET RN -C	3235003F0101	1	
2	R4, R7, R24, R27	CR/RK73H/ERJ/MCRF160 RES-MET RN -C	3235003F0160	4	
3					
4	R12	CR/RK73H/ERJ/MCRF4R9 RES-MET RN -C	3235003F4991	1	
5	R35, R36	CR/RK73H/ERJ/MCRF750 RES-MET RN -C	3235003F0750	2	
6	R14	CR/RK73K/ERJ/MCRJ103 RES-MET RN -C	3235003J0103	1	
7	R5	CR/RK73K/ERJ/MCRJ104 RES-MET RN -C	3235003J0104	1	
8	R8, R9	CR/RK73K/ERJ/MCRJ361 RES-MET RN -C	3235003J0361	2	
9	R13	CR/RK73K/ERJ/MCRJ471 RES-MET RN -C	3235003J0471	1	
10	R19	CR/RK73K/ERJ/MCRJ472 RES-MET RN -C	3235003J0472	1	
11	C523, C524, R31, R32	CR/RK73Z/ERJ/MCRJ-0V RES-Zero ohm -C	3255003P0001	4	
12	RM1~RM9	CN1J/EXB/BCN0ohm RES-Block -C	3345003P0001	9	
13					
14	C39, C40	DEBE33D103ZA3B 2KV CAP-Ceramic -	3024007Z1103	2	
15	C8, C9	GRM/UMK/MCH/220CH CAP-Ceramic -C	3033003C0220	2	
16	C35, C36	GRM/UMK/MCH/102B 50V CAP-Ceramic -C	3036003K0102	2	
17	C42, C43, C525, C526	GRM/UMK/MCH/221CH CAP-Ceramic -C	3033003C0221	4	
18	C10	GRM/UMK/MCH/561B 50V CAP-Ceramic -C	3036003K0561	1	
19	C11, C12, C32, C38, C501~C522	GRM/TMK/MCH/104Z 25V CAP-Ceramic -C	3036003Z0104	26	
20	C33	MFK16FD10C6 16V CAP-Alum(CE) -C	304A5005C1100	1	

ICP-PCB Assy. (3/3)
(42161801)

REF. NO.	SYMBOL	TYPE/NAME	PART NO.	Q'TY	REMARKS
21					
22	IC4	TC7SH00FU Digital IC-MOS-C	702A3225N0001	1	
23	IC3	M4A3-32/32-10VC48ICP Memory-PLA -F	8185000N0001	1	
24	IC2	CS8900A-CQ3 CPU-Interface -F	8550378N0003	1	
25	CN2	1-176837-4 Connector-PCB -	224A4335P0300	1	
26	X1	HC-49/U03C-18.432MHz OSC-Crystal -C	3801001B0008	1	
27	X2	HC-49/U03C-20.00MHz OSC-Crystal -C	3801001B0003	1	
28	L1, L2	SA-8506185/ZBF253 Filter-PW line-N	3771003P0001	2	
29	D2	GL3HY8 PHOTO-LED -	650A0228M0010	1	
30	D1	GL3KG8 PHOTO-LED -	650A0328M0014	1	
31	CN1	CJ4788A110K Connector-Plug-	2233015P0001	1	
32	T1	TG41-2006NTR TFORMER-Pulse -B	3655001P0001	1	
33	IC1	CO561AD-L/20PC-3 CPU-Interface -L	8550886M0001	1	
34		LF-12 Socket-SEMICON-	2453000P0001	2	
35		LH-3-8 LED Spacer	1281000P0001	2	

APPENDIX E SECOND PAPER FEEDER MAINTENANCE MANUAL

PREFACE

This Maintenance Manual is intended for the maintenance personnel and describes the field maintenance methods for Second Paper Feeder option of FX-060VP Facsimile Transceiver.

Refer to the Instruction sheet of High Capacity Second Paper Feeder option for equipment handling and operation methods.

1. OUTLINE

1.1 Functions

When the Second Paper Feeder is installed with the OKIFAX 5650 facsimile transceiver, the Second Paper Feeder is connected to the facsimile by a connector. The Second Paper Feeder supplies paper automatically through the operation of pulse motor (hopping), which is driven by signals sent from CPU of the Second Paper Feeder under the control of the facsimile.
The main functions are the followings:

- Paper that can be used:

[Paper Type]
- Standard paper: Xerox 4200 (20-lb)
- Special paper: PPC sheets; use of envelopes or thick paper is not possible.
- Cut sheet size: A4, Letter, Legal13, Legal14
- Special size: Paper width: 210 to 216mm
  Paper length: 279.4 to 355.6mm

[Weight]
- 16-lb to 24-lb (60 to 90 g/m^2)

- Paper setting quantity: 500 sheets of paper weighing 64 g/m^2

1.2 External View and Component Names

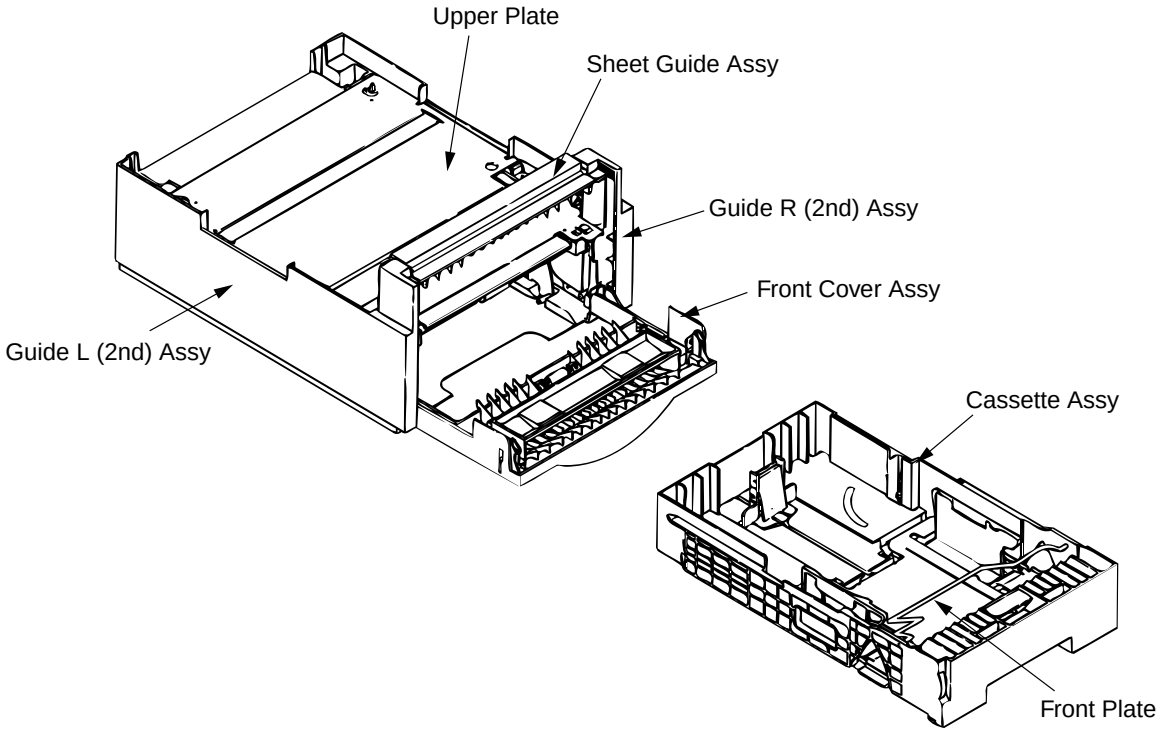


Figure 1.1 External View and Component Names

2. MECHANISM DESCRIPTION

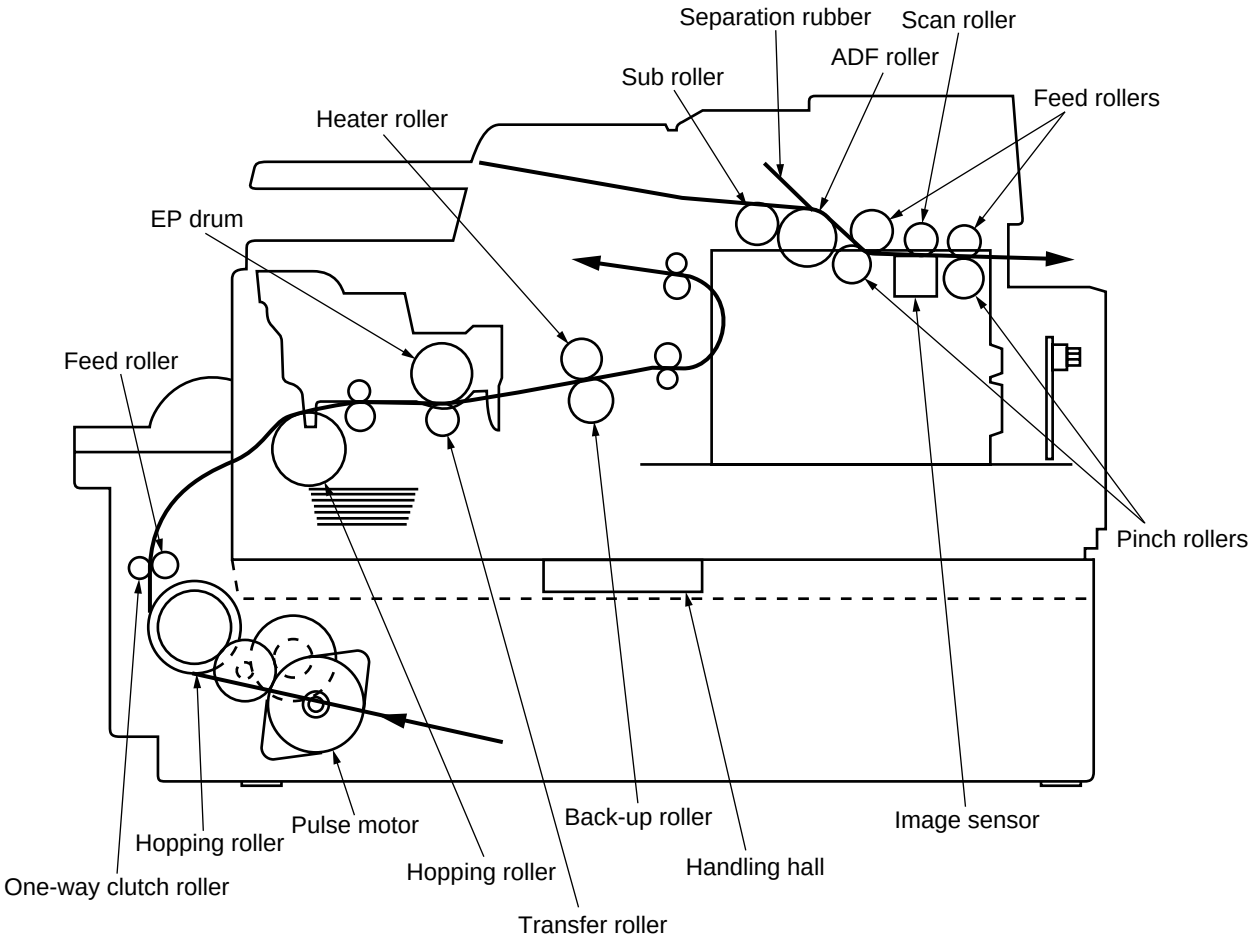
2.1 General Mechanism

The Second Paper Feeder feeds the paper into the facsimile by receiving the signal from the facsimile, which drives the pulse motor inside the Second Paper Feeder, and this motion is transmitted to rotate the one-way clutch of the hopping frame assembly. The paper is delivered from the hopper into the facsimile through the turning of the hopping roller and feed roller.

Once delivered into the facsimile, the paper is then controlled and fed through by pulse motor (registration) of the facsimile.

2.2 Hopper Mechanism

The hopper automatically feeds the facsimile with the paper being set, single sheet at a time. When the paper is loaded in the paper cassette, it is then transported by the pulse motor, carrying forward only a single sheet caught by the separation rubber at a time.



3. PARTS REPLACEMENT

This section covers the procedures for the disassembly, reassembly and installations in the field. This section describes the disassembly procedures, and for reassembly procedures, basically proceed with the disassembly procedures in the reverse order.

3.1 Precautions Concerning Parts Replacement

(1) Parts replacements must be carried out, by first turning the facsimile power switch off “O” and removing the facsimile from the Second Paper Feeder.

(2) Do not disassemble the Second Paper Feeder if it is operating normally.

(3) Establish the extent of disassembly suitable for the purpose of the procedure, and do not disassemble any more than necessary.

(4) Only specified service tools may be used.

(5) Disassembly must be carried out according to the prescribed procedures. Parts may be damaged if such procedures are not followed.

(6) Small parts such as screws and collars can easily be lost, therefore these parts should be temporarily fixed in the original location.

(7) When handling printed circuit boards, do not use any glove which may generate static electricity.

(8) Do not place the printed circuit boards directly on the equipment or floor.

[Service Tools]

Table 3.1 shows the tools required for the replacement of printed circuit boards, assemblies and units in the field.

Table 3.1 Service Tools

No.	Service Tools		Q'ty	Application	Remarks
1		No. 1-100 Philips screwdriver	1	2 ~ 2.5 mm screws	
2		No. 2-100 Philips screwdriver	1	3 ~ 5 mm screws	
3		No. 3-100 screwdriver	1		
4		Digital multimeter	1		
5		Pliers	1		

3.2 Parts Layout

This section describes the layout of the main components.

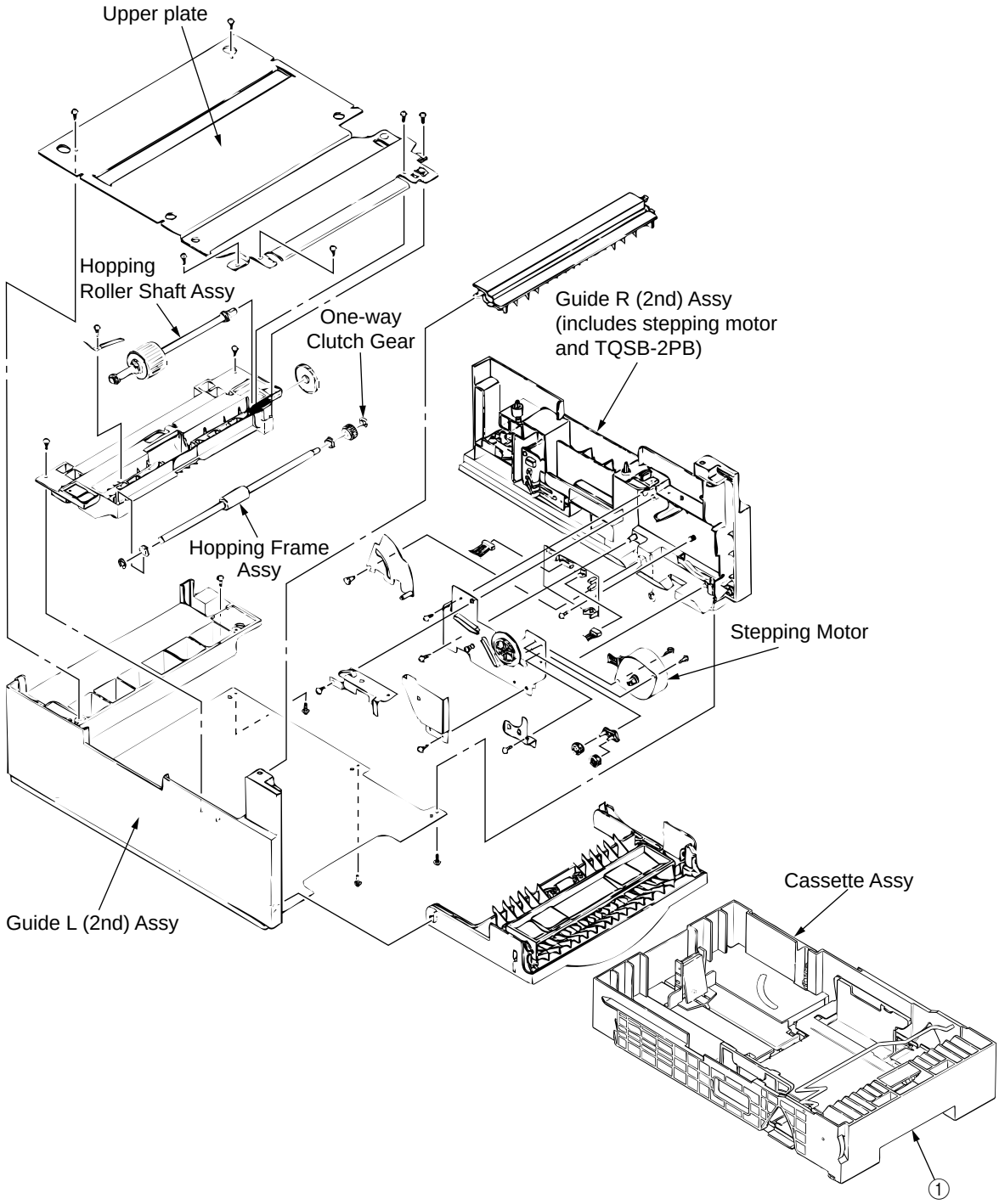
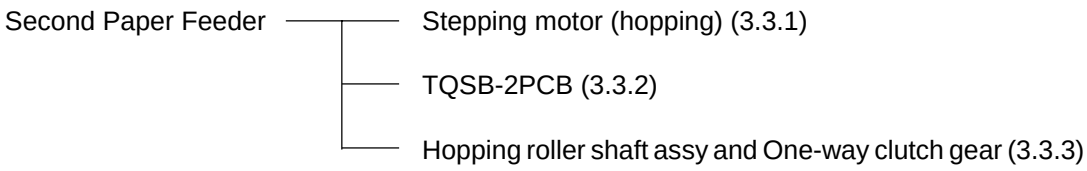


Figure 3.1

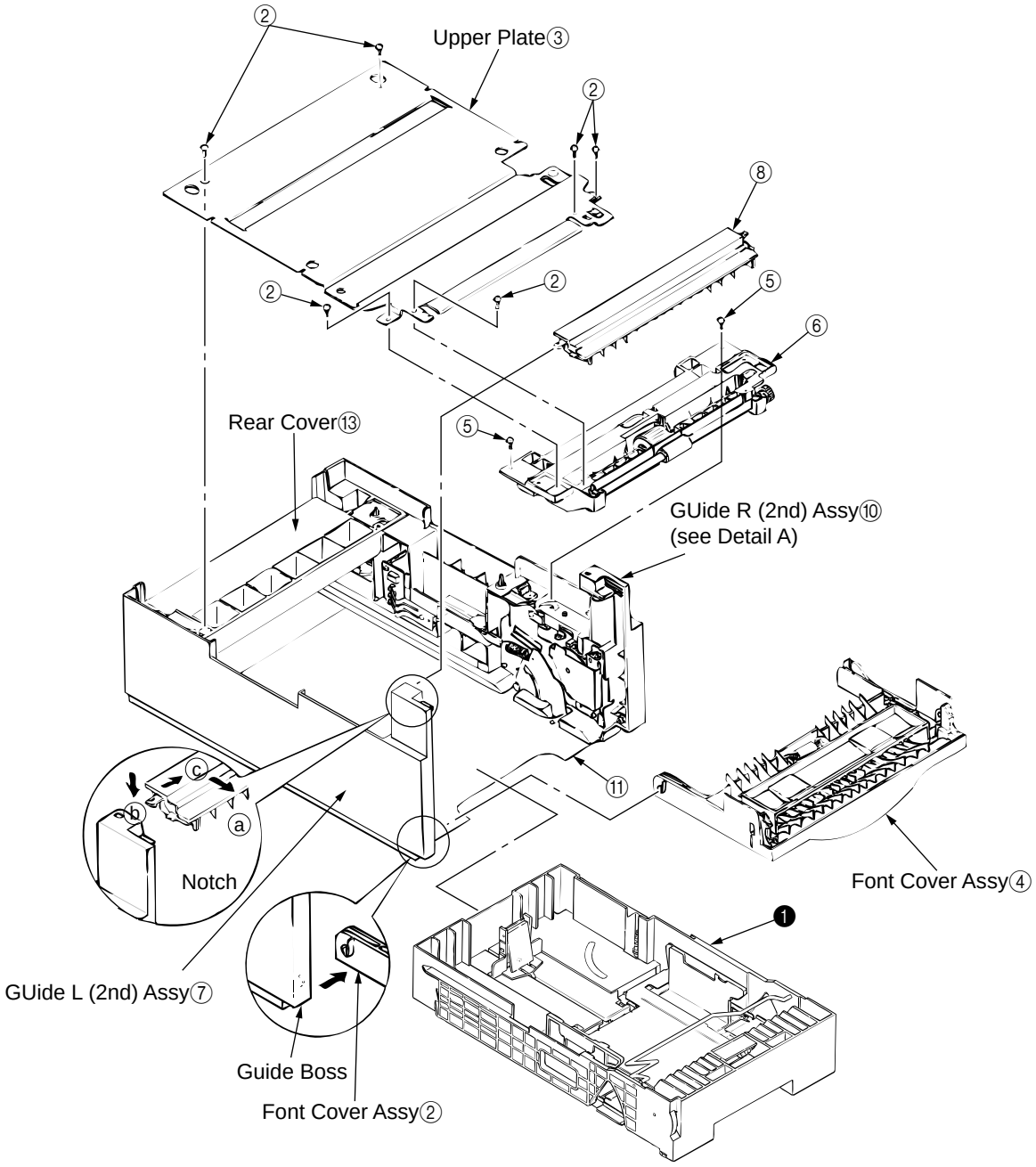
3.3 Parts Replacement Methods

This section description the parts replacement for the components listed in the disassembly order diagram below.

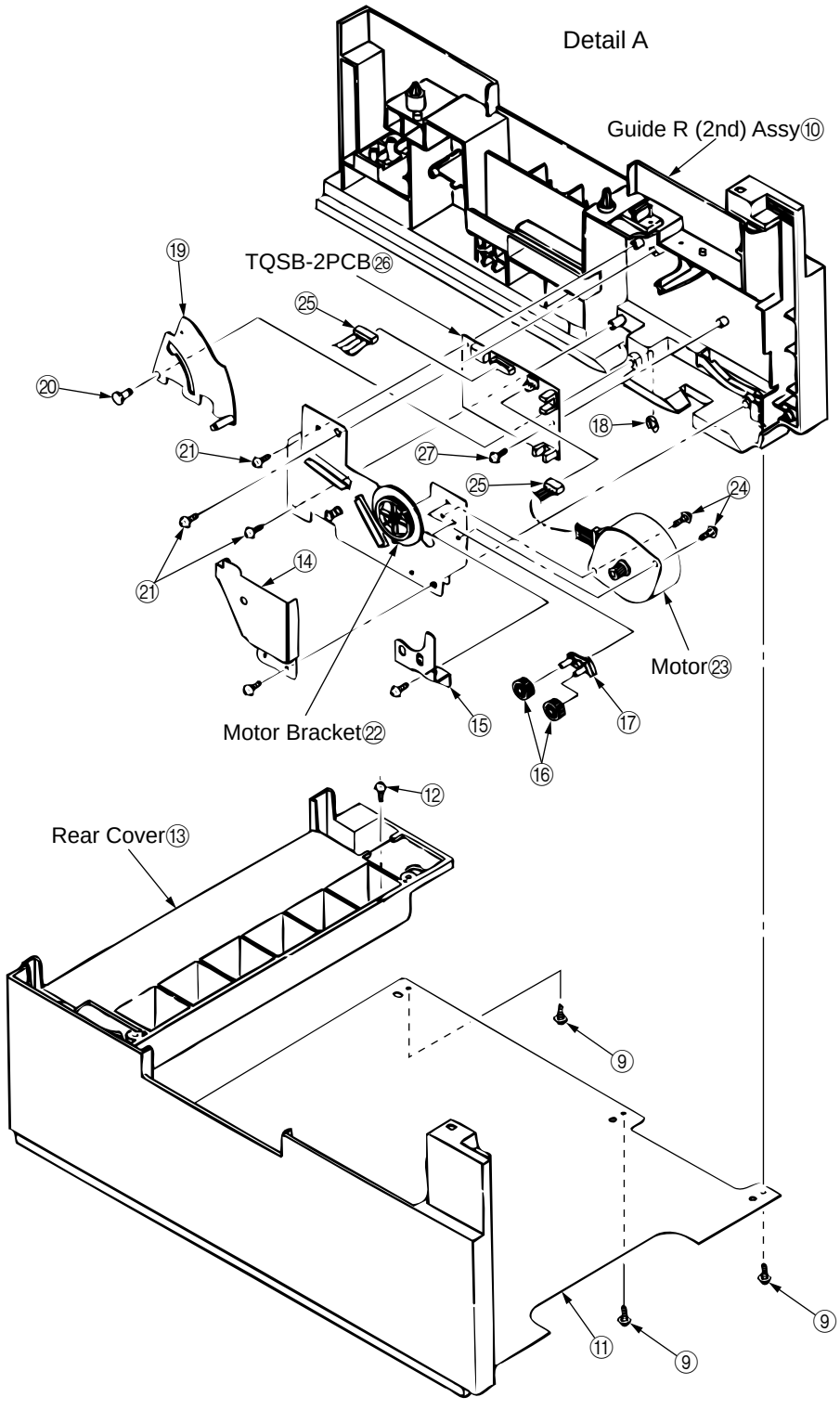


3.3.1 Stepping Motor (Hopping)

(1) Turn the facsimile power switch off, pull out the AC cord from the outlet. Remove the facsimile off Second Paper Feeder.
(2) Take the paper cassette assy ❶ out of Second Paper Feeder.
(3) Remove six screws ② and remove the upper plate ③. Remove two screws ⑤ and remove the hopping frame assy ⑥.
(4) Remove the front cover assy ④ off the guide boss on the guide L (2nd) assy ⑦ by bending the guide L (2nd) assy ⑦ in the direction of arrow shown in the magnified view below.
(5) Pull the sheet guide assy ⑧ in the direction of arrowⓐand also push in the direction of arrow ⓑto unlock the notch, and bring the sheet guide assy ⑧ in the direction of arrowⓒto remove the sheet guide assy ⑧.



(6) Remove three screws ⑨ which are holding the guide R (2nd) assy ⑩ to the bottom plate ⑪. Remove the screw ⑫ which is keeping the rear cover ⑬ and guide R (2nd) assy ⑩. Remove the guide R (2nd) assy ⑩.
(7) Remove the protect (M) ⑭, guide bracket ⑮, planet gears ⑯ and planet gear bracket ⑰.
(8) Remove the E-ring ⑱ which is keeping the sheet link ⑲ on the guide R (2nd) assy ⑩, and pull out the hinge stand ⑳.
(9) Remove three remaining screws ㉑ which are keeping the motor on the motor bracket ㉒, and remove the connector off the Stepping Motor ㉓.
(10) Remove two screws ㉔ on the Stepping Motor ㉓.



3.3.2 TQSB2-PCB

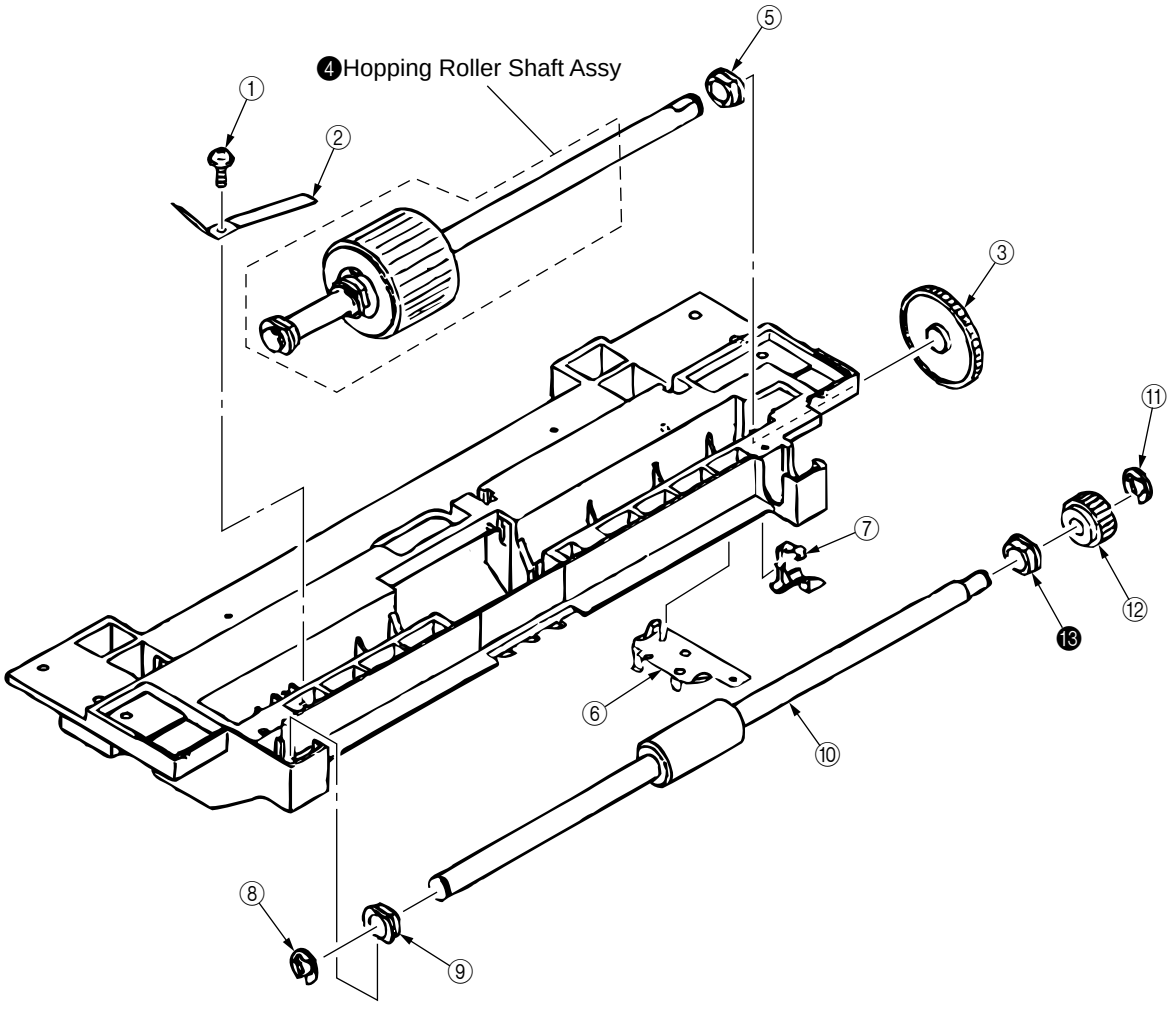
(1) Remove the pulse motor (see 3.3.1).
(2) Remove the connector ㉕ from the TQSB-2PCB ㉖.
(3) Remove the screw ㉗ and remove the TQSB-2PCB ㉖.

Note : Refer to Detall A in the previous page.

3.3.3 Hopping Roller Shaft Assy and One-way Clutch Gear

(1) Follow up to step (3) of 3.3.1 and remove the hopping frame assy.
(2) Remove the screw ① and remove the earth plate ②. Remove the sensor lever ⑦ and remove the ground plate ⑥. Remove the gear ③ and remove the metal bush ⑤ and Hopping Roller shaft Assy ❹.
(3) Remove the E-ring ⑪ and remove the one-way clutch gear ⓬ on the right side of the feed roller ⑩.

Note : The metal bush ⑬ also comes off. Be careful not to lose it.



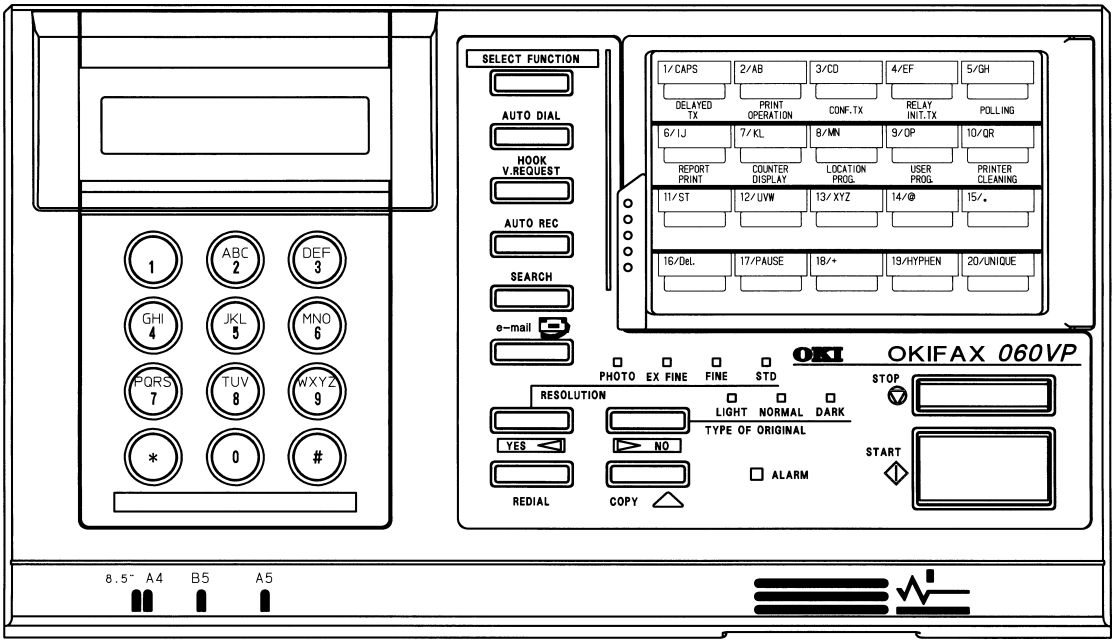
4. TROUBLESHOOTING

4.1 Precautions Prior to the Troubleshooting

(1) Go through the basic checking items provided in the facsimile Handbook.
(2) Obtain detailed information concerning the problem from the user.
(3) Go through checking in the conditions similar to that in which the problem occurred.

4.2 Preparations for the Troubleshooting

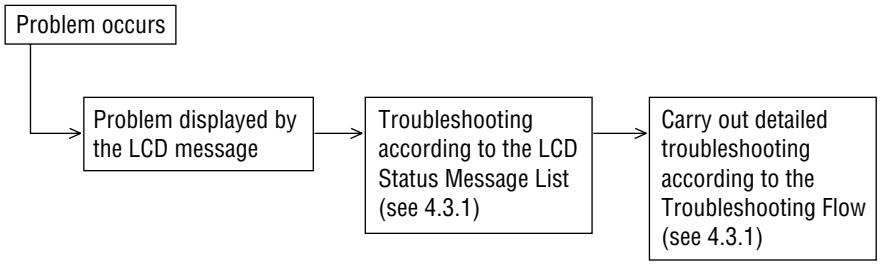
(1) Display on the Operator panel
The status of the problem is displayed on the LCD (Liquid Crystal Display) on the Operator panel. Go through the appropriate troubleshooting procedures according to the messages displayed on the LCD.



Control Panel of FX-060VP

4.3 Troubleshooting Method

When a problem occurs, go through the troubleshooting according to the following procedure.


Problem occurs
Problem displayed by the LCD message
Troubleshooting according to the LCD Status Message List (see 4.3.1)
Carry out detailed troubleshooting according to the Troubleshooting Flow (see 4.3.1)

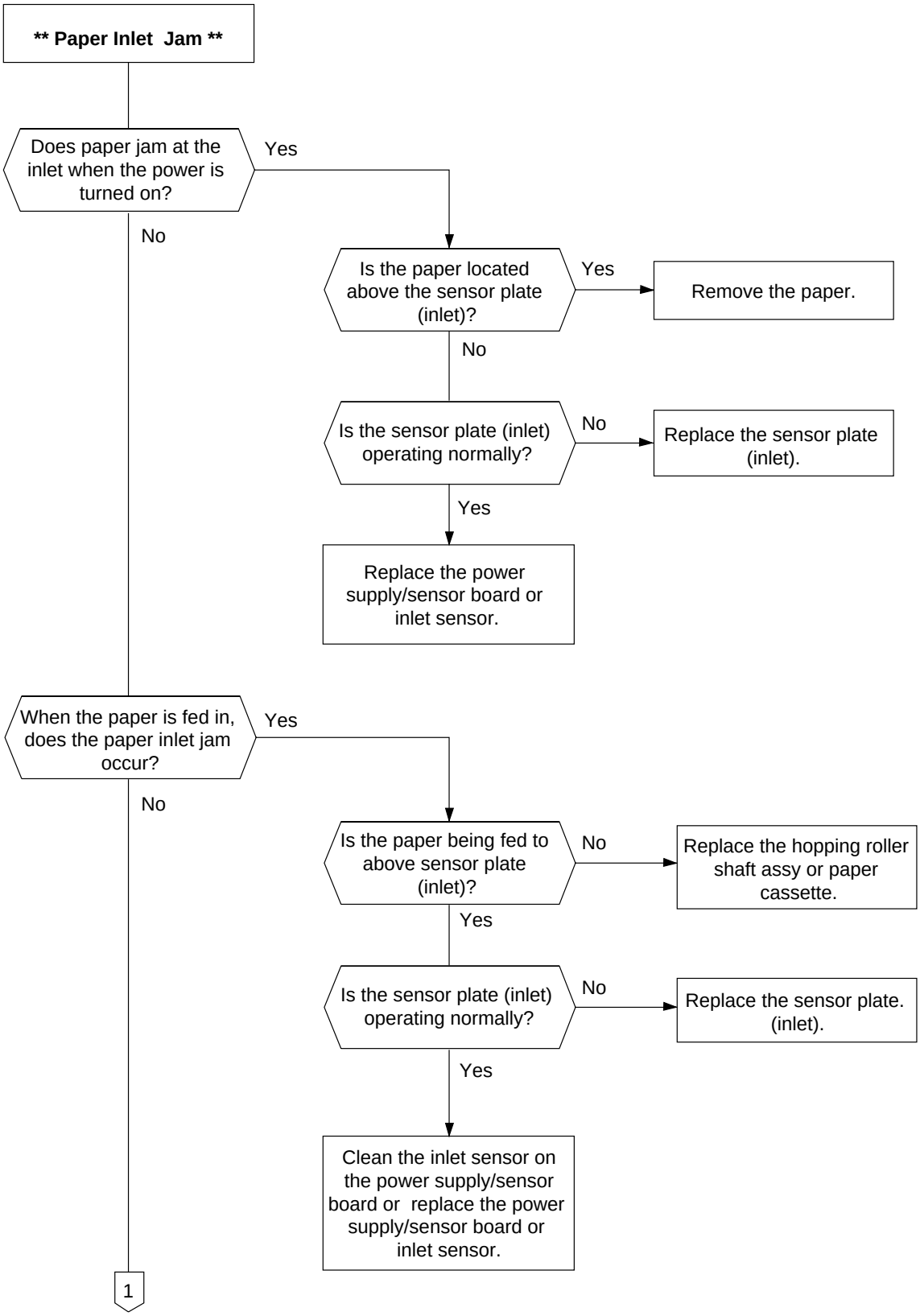
4.3.1 LCD Status Message List

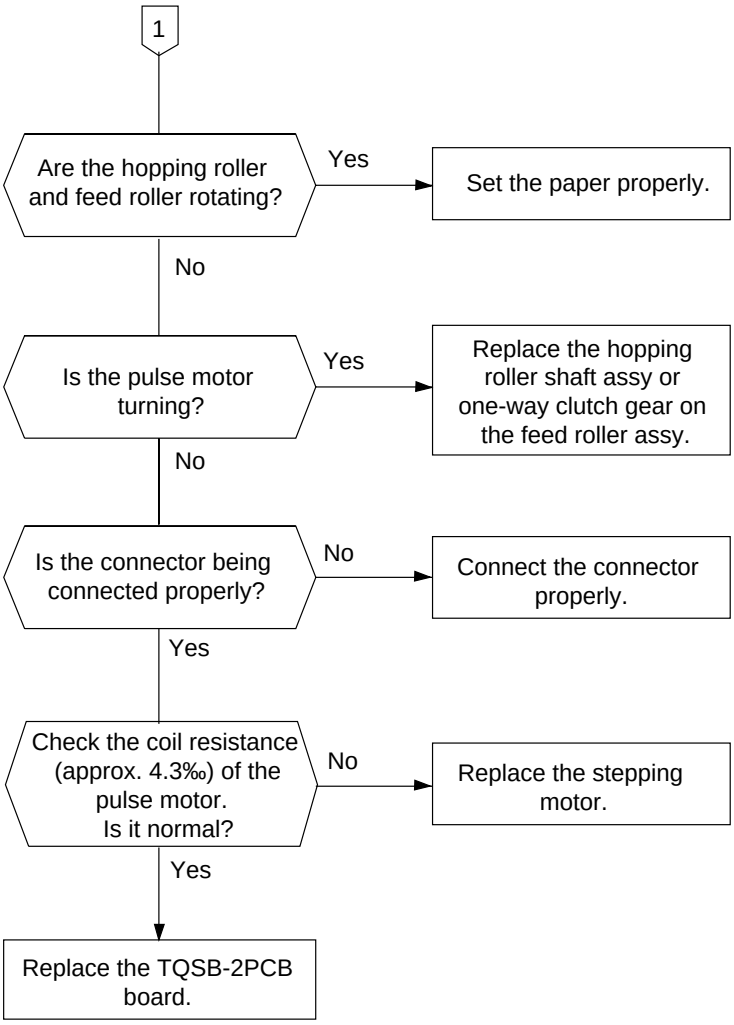
The listing of the statuses and problems displayed in the form of messages on the LCD is provided in Table 41.

Classification	LCD Status Message	Description	Recovery method
Jam error (feeding) *1	[redacted] PAPER MISS FEED:FAX CHECK PAPER OR PATH	Notifies of occurrence of jam while the paper is being fed from Second Paper Feeder.	• Check the paper in the Second Paper Feeder. Carry out the recovery printing by opening and closing the cover, and turn the error display off. • When the problem occurs frequently, go through the Troubleshooting.
Jam error (ejection)	[redacted] PAPER JAM :FAX CHECK PAPER OR PATH	Notifies of occurrence of jam while the paper is being ejected from the Second Paper Feeder.	• Check the paper in the Second Paper Feeder. Carry out the recovery printing by opening and closing the cover, and turn the error display off.
Paper size error	[redacted] PAPER SIZE ERR.:FAX CHECK PAPER OR PATH	Notifies of incorrect size paper feeding from Second Paper Feeder.	• Check the paper in the Second Paper Feeder. Also check to see if there was a feeding of multiple sheets. Carry out the recovery printing by opening and closing the cover, and turn the error display off.
Tray paper out *2	[redacted] PAPER SUPPLY OUT:FAX CHECK PAPER SUPPLY	Notifies of no paper state when both cassettes (1st and 2nd) has no recording paper.	• Load the paper in Second Paper Feeder.

*1: Indicates the same message on the display, when 1st or 2nd cassette becomes jam error (feeding).
*2: However, if 1st cassette has recording paper, LCD indicates the standby mode on the display and alarm message does not indicate.

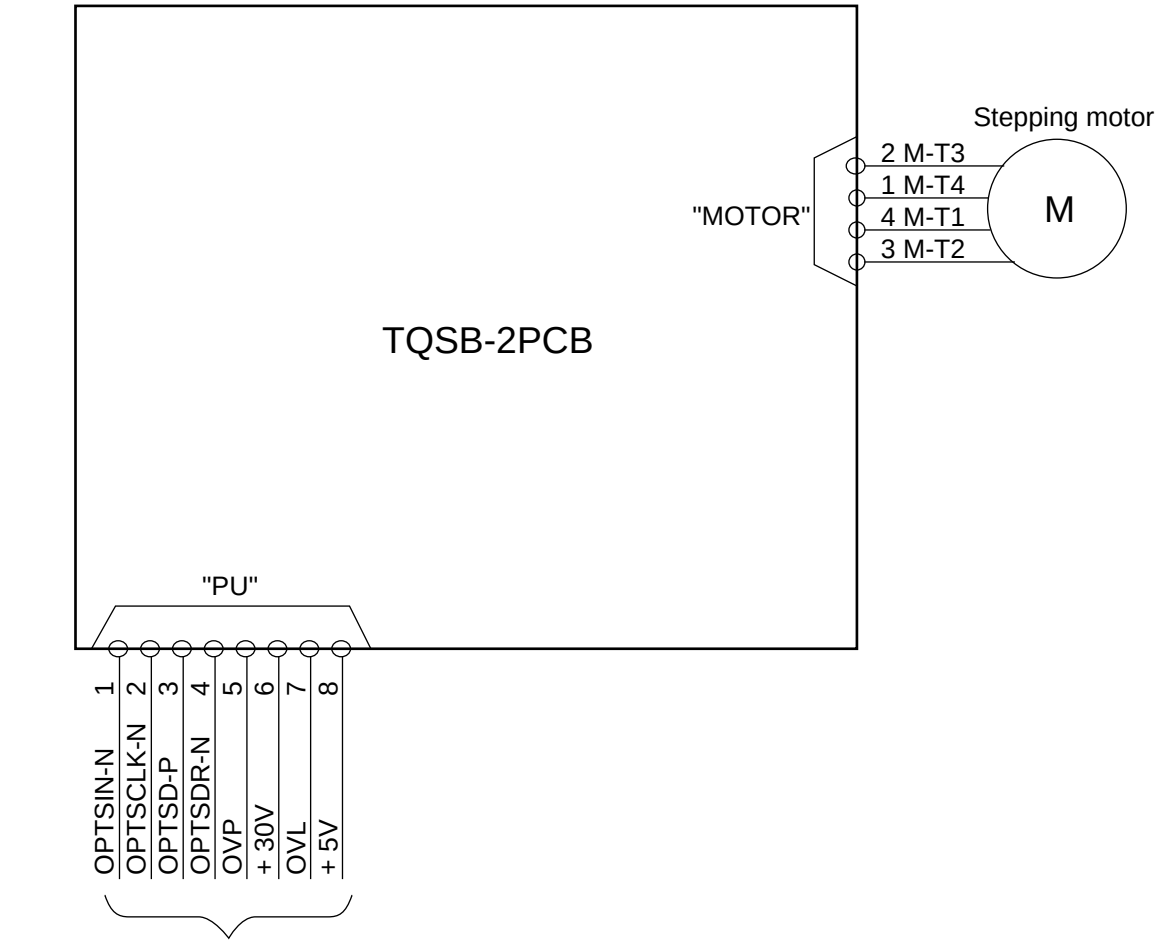
• (JAM error)


** Paper Inlet Jam **
Does paper jam at the inlet when the power is turned on?
Yes
No
Is the paper located above the sensor plate (inlet)?
Yes
Remove the paper.
No
Is the sensor plate (inlet) operating normally?
No
Replace the sensor plate (inlet).
Yes
Replace the power supply/sensor board or inlet sensor.
When the paper is fed in, does the paper inlet jam occur?
Yes
No
Is the paper being fed to above sensor plate (inlet)?
No
Replace the hopping roller shaft assy or paper cassette.
Yes
Is the sensor plate (inlet) operating normally?
No
Replace the sensor plate. (inlet).
Yes
Clean the inlet sensor on the power supply/sensor board or replace the power supply/sensor board or inlet sensor.
1


1
Are the hopping roller and feed roller rotating?
Yes
Set the paper properly.
No
Is the pulse motor turning?
Yes
Replace the hopping roller shaft assy or one-way clutch gear on the feed roller assy.
No
Is the connector being connected properly?
No
Connect the connector properly.
Yes
Check the coil resistance (approx. 4.3‰) of the pulse motor. Is it normal?
No
Replace the stepping motor.
Yes
Replace the TQSB-2PCB board.

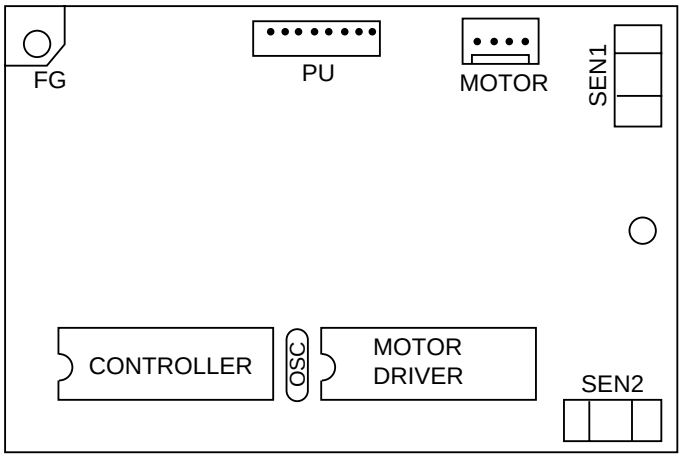
5. CONNECTION DIAGRAM

5.1 Interconnection Diagram



5.2 PCB Layout

TQSB-2PCB



APPENDIX F RMCS SYSTEM MANUAL (For Model 40)

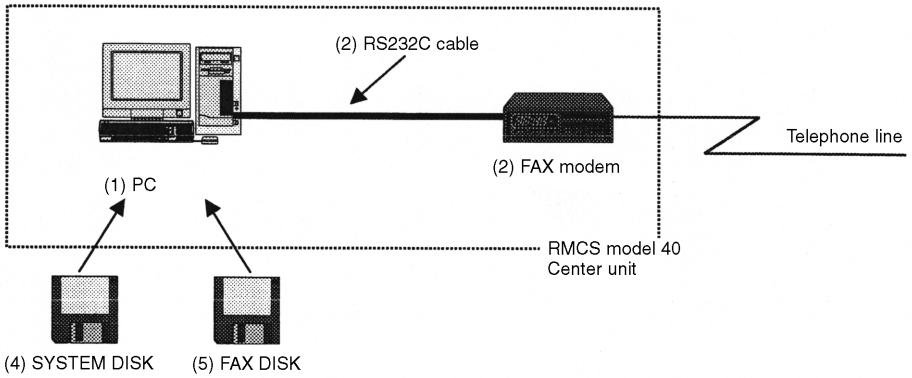
1. Notes to RMCS user

1.1 Introduction

RMCS stands for the Remote Management Center System. The purpose of this system is to speed up customer service and reduce maintenance costs.

1.2 System Configuration of RMCS MODEL40

System configuration of RMCS Model 40 is shown below. PC, FAX Modem are needed for the system.



(1) PC : IBM PC or compatible PC with Windows95/98/Me, WindowsNT4.0, Windows2000, WindowsXP Pro, WindowsXP home.
(2) FAX modem : Any FAX modem be accessed by a serial port of Windows system. To achieve the good stability and performance, the four FAX modems shown in Table F.1 are recommended, which have been tested during development.
(3) RS232C cable : In case the FAX modem needs the cable to attach to the PC
(4) SYSTEM DISK : To install this system and FAX DISKs.
(5) FAX DISK : FAX DISK corresponds to each FAX model. This software includes default data and communication control program for the target model of FAX machine.

1.3 Required System

The RMCS (Remote Management Center System) for Win must be installed in the PC that has Windows-OS installed in order to run maintenance works from a remote location by using the RMCS for Win.
The PC system, in which the RMCS for Win is installed and executed for maintenance works, differs depending on the operation system.
The following system configuration is required to use the RMCS for Win.

Table F.1 The required system configuration to use the RMCS for Win

OS	Windows 95 OSR2 or later + IE4.0(*1) or later Windows 98 Windows NT4.0 Service Pack 4 ~ + IE4.0(*1) or later Windows 2000 Windows Me Windows XP Professional/Home Edition
CPU	Windows XP Professional/Home Edition : 300 MHz or higher Pentium-compatible CPU Windows 2000 : 133 MHz or higher Pentium-compatible CPU Windows Me : 150 MHz or higher Pentium-compatible CPU Windows NT4.0 : i486TM/25 MHz or highter Windows 95/98/NT4.0 : 486DX/66 MHz or higher
Memory	Windows XP Professional/Home Edition : 128MB or higher Windows 2000 : 64MB or higher Windows 95/98/NT4.0/Me : 32MB or higher
Hard Disk	20MB or higher of free space
Monitor Resolution	640 dots x 480 dots or higher
Recommended Fax Modem	U.S. Robotics 56K faxmodem - External Model #5686

*1) IE : Microsoft® Internet Explore ®

2. Quick Set-up manual for RMCS Model 40

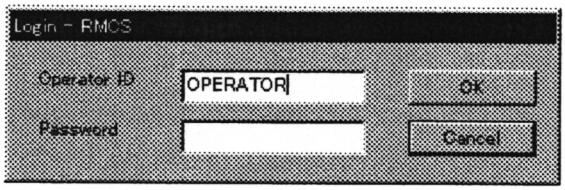
2.1 RMCS Installation

1) Insert the disk to set up the RMCS in the drive.
2) Start up Installer.
3) Execute installation by following the SETUP screen.
   * You can set an operator password during Install.
   * You can skip password registration.
   * You can use up to 15 alphanumeric characters to set up a password.
   * You can change the registered password after installation.
   * You can enter up to 15 alphanumeric characters for a password.

3. Startup

3.1 Entering Operator ID

As the RMCS MODEL 40 starts up, you are queried for entering an operator ID.
You can confirm the operator ID you entered on the System Main screen or the Model Main screen after the RMCS started up.

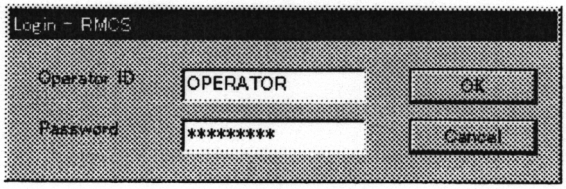


* You can enter up to 50 alphanumeric characters for operator IDs.
* If you want to change the operator ID, you must exit RMCS first, then re-boot it.

3.2 Entering Password

You are queried for entering a password at the same time as entering an operator ID.

1) Enter an operator password.
   * Enter the password that was registered during installation of the RMCS for Win or the password modified later.
   * If no password has been registered, you need not input any herein.

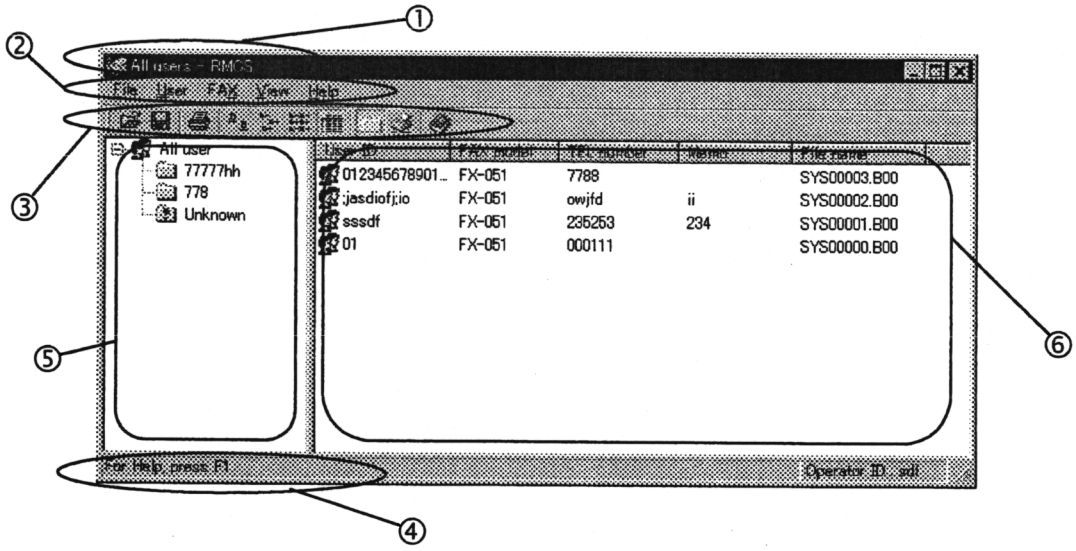


2) Press the OK button.
   * If you enter the password incorrectly three times, the RMCS closes and it does not boot up.

4. SYSTEM Main Screen

4.1 Screen Titles

Once the RMCS for Win is booted, the System Main screen appears.
The titles used in the System Main screen are explained next.



① Title Bar:
Displays the folder names that are displayed on the User Display window.

② Menu Bar:
Displays the menu that executes the various functions.

③ Toolbar:
Displays by the icons the functions that you can execute by clicking.
You can switch Toolbar display/not display on the View Menu.

④ Status Bar:
Displays the status of RMCS, Menu descriptions, and also operator ID.
You can switch Status bar display/not display on the View menu.

⑤ Users (RMCS users) Category Window:
Displays the facsimile models that are currently registered, or the folders that the operator has customized.
You can switch the display by the facsimile models or by the folders, on the View menu or by the icons on the Toolbar.

⑥ Users (Field users) Display Window
Displays all users that are currently registered.
You can switch Large Icons, Small Icons, List and Details, on the [View] menu or by the icon on the Toolbar.

4.2 DISK by Models

4.2.1 Adding Models

You must run Install by using the DISK by the models and add models to run maintenance on the facsimile devices. The procedure is explained next.

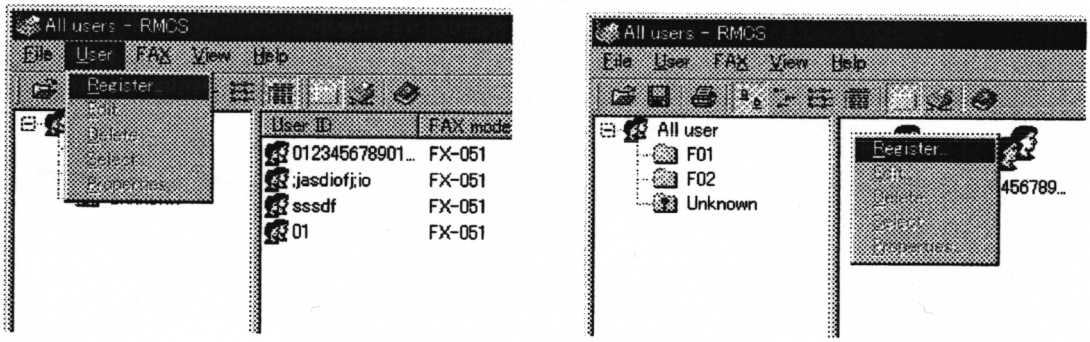
(1) Insert the DISK by the facsimile models in the drive.
(2) Select [Install] on the [FAX] menu.
(3) Select on the Dialog screen the drive where you have inserted the DISK by the facsimile models.
(4) Press the OK button.
(5) Confirm the facsimile device you want to add has been added to the User Category window at the System Main screen.

4.3 Manipulating User Information

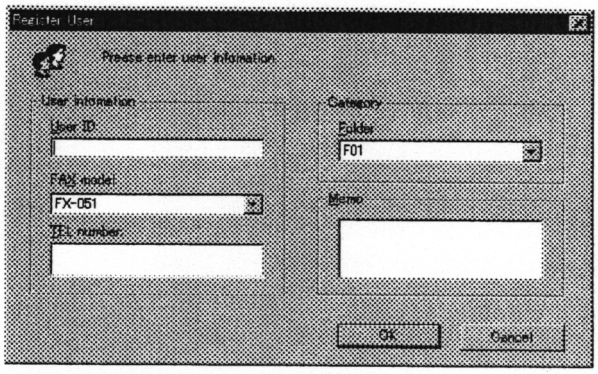
4.3.1 Registering User Information

You must register user information to run maintenance works.

1) Select a folder you want to register at the User Category window.
2) Select [Register] on the [User] menu.
   * You can select by right clicking at the User Display window.



3) The Register Dialog screen appears.
4) Enter each item and press the OK button.



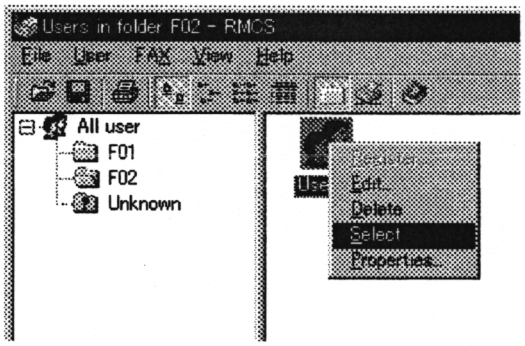
* The following four items are subject to registration.
   1. User ID: Enter up to 15 alphanumeric characters (must)
   2. FAX model: Select on the Pull-down menu. (must)
   3. TEL number: Enter a TEL number of up to 48 digits. (must)
   4. Folder: Select on the Pull-down menu. (choice)
   5. Memo: Enter up to 50 alphanumeric characters (choice)

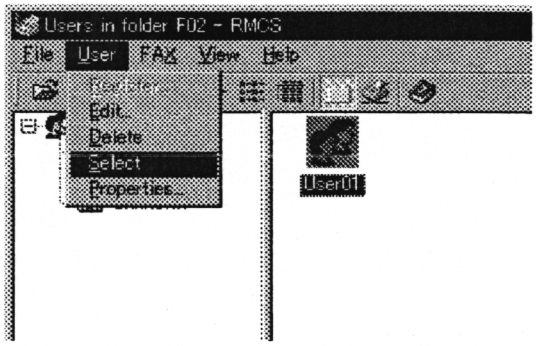
* You cannot register by the User ID name that is already registered.

4.3.2 Selecting User Information

To select the user information subject to maintenance so as to move to the Model OFFLINE screen.

1) Select the user information on which you want to run maintenance at the User Display window.
2) Select [Select] on the [User] menu.
   * You can select by right clicking at the All Users window.
   * You can select by double clicking at the level when user information is selected.



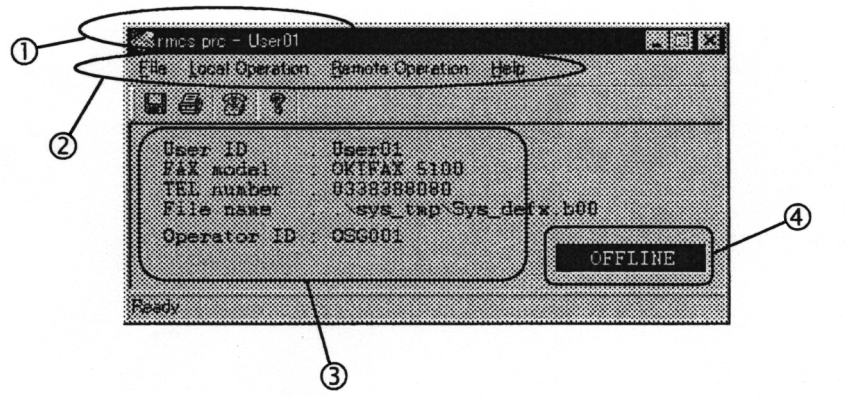


3) The Model OFFLINE screen appears.

5. Model Main Screen

5.1 Screen Title

When User Information is selected at the RMCS for Win SYSTEM Main screen, the Model Main screen appears.
The Model Main screen is explained next.



① Title Bar:
To display the facsimile model name

② Menu Bar:
To display the menu at which each function is executed

③ Area to display user information and operator information:
To display user information and operator IDs to set/display/edit

④ ONLINE/OFFLINE display:
To recognize ONLINE/OFFLINE status of setup information currently displayed

5.2 ONLINE Operation

Select items on the [Remote Operation] menu, to run ONLINE operations through the communication circuit.

1) Change the telephone number, if necessary, at the [TEL number setting] sub-menu on the [Local Operation] menu.
2) Select items on the [Remote Operation] menu.

Initialization of FAX
File [LOAD (→ FAX)]
File [SAVE (→ HD)]
[EDIT] (ON LINE)
Testing
Disconnect

3) Confirm that ONLINE is displayed at the Model Main screen.

5.2.1 Loading

To load file-format data from the RMCS (maintenance work PC) to the target FAX device.
The data in the target FAX device is replaced with the loaded data.

1) Select items to load at the [File[LOAD(→FAX)]] sub-menu on the [Remote Operation] menu.

All data
User data
Serviceman data
TEL number data
Program/Language/Default data

2) (File loading.)
3) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu without disconnecting the line.
4) Confirm that OFFLINE is displayed on the Model Main screen.
   * I-FAX NIC F/W cannot be loaded from RMCS.

5.2.2 Saving

To upload the file-format data from the target FAX device in the RMCS (maintenance work PC) and save.
The data that is saved in the RMCS is replaced by the newly saved data.

1) Select the [FILE[SAVE(→HD)]] sub-menu on the [Remote Operation] menu.
2) Select a driver and a folder to save at the dialog screen.
3) (File saving.)
4) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu without closing the circuit.
5) Confirm that OFFLINE is displayed on the Model Main screen.

5.2.3 Editing

To edit/set contents of data on the target FAX device from the RMCS (maintenance work PC) side
You can also save the data you edited/set in the RMCS. In this case, the data saved in the RMCS is replaced with the data you have just saved.

1) Select an item to edit/set at the [EDIT(ONLINE)] Sub-menu on the [Remote Operation] menu.
2) The dialog screen for User/Serviceman/Telephone number data appears.
3) Edit/set the contents of data.

User data
Serviceman data
TEL number data

Updating the data on the target FAX device side:
4) Press the LOAD button.
5) (File loading.)
6) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu without closing the circuit.
7) Confirm that OFFLINE is displayed on the Model Main screen.

Updating the data on the RMCS (Maintenance work terminal) side:
4) Press the SAVE button.
5) Select a drive and a folder at the SAVE dialog screen and press the OK button.
6) Select the [Disconnect] sub-menu on the [Remote Operation] menu to close the circuit.
   * You can select a new item on the [Remote Operation] menu, without closing the circuit.
7) Confirm that OFFLINE is displayed on the Model Main screen.

5.2.4 Initializing

To initialize the contents of registration of the target FAX device by sending the initialization command to the target FAX device from the RMCS (Maintenance work PC).

(1) Select an item to initialize at the [Initialization of FAX] sub-menu on the [Remote Operation] menu.

All data
User data
I-FAX NIC data
Serviceman data
TEL number data
Activity report data
Drum counter
Toner counter
Drum(T) counter
Print counter
Scan counter

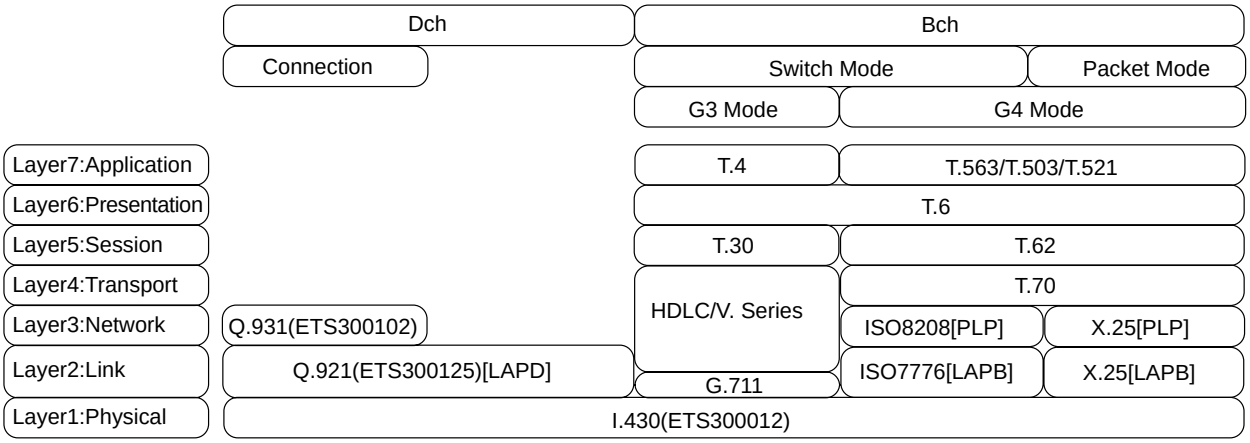
APPENDIX G ISDN G4 OPTION

1. MAJOR SPECIFICATIONS

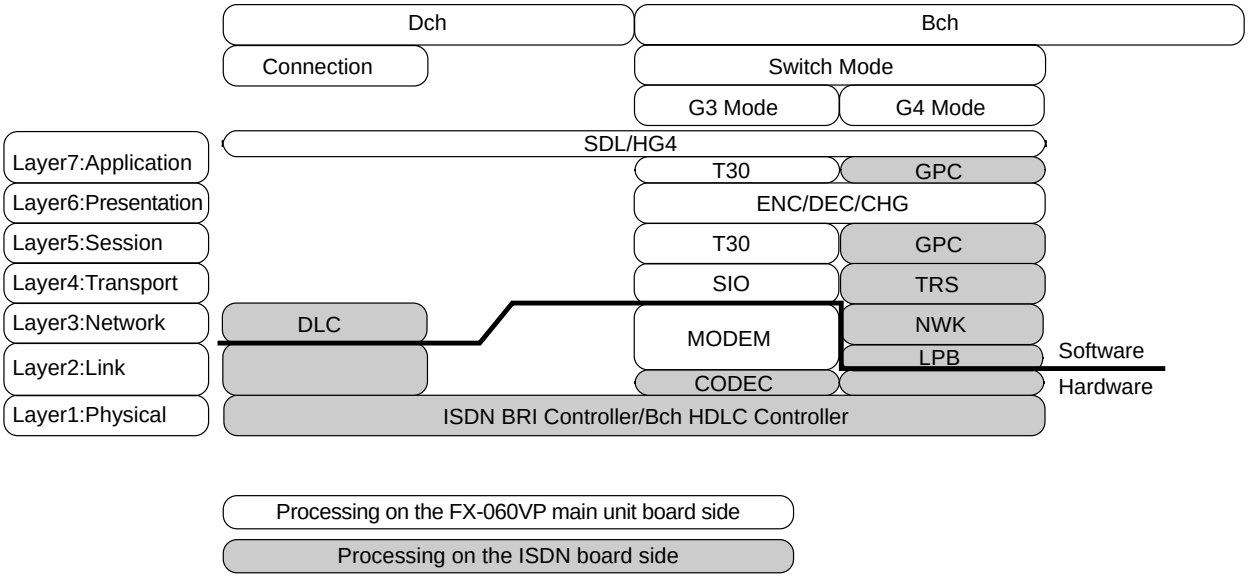
CATEGORY	ITEMS	G3 Mode	G4 Mode	REMARK
General	Applicable Network	ISDN (Circuit Switch Mode) *		*PSTN is not available.
	Network Interface	ITU-TI.430, ETS 300 012 Basic Rate Interface (2B+D) , S/T Interface		
	Conformity approval standard	ETSI TBR3-1995		
	Adapted cable	S bus cable (ISDN modular cable)		
	Compatibility	ITU-T G3*	ITU-T G4 Class1	*Automatic fallback from G4 mode to G3 mode.
	Transmission Speed	Maximum 33.6kbps	64kbps	
	Coding Scheme	MH, MR, MMR	MMR	
	Communication Resolution	8dot/mm×3.85line/mm 8dot/mm×7.7line/mm 8dot/mm×15.4line/mm 300dot/inch×300dot/inch interpolated 600dot/inch ×600dot/inch	200dot/inch×100dot/inch 200dot/inch×200dot/inch 300dot/inch×300dot/inch	
	Transmission Time	3sec ITU-T No.1 chart, 33.6kbps, 8dot/mm×3.85line/mm	1.5sec ITU-T No.1 chart, 64kbps, MMR, 200dot/inch×100dot/inch	
	Error Correction	ECM Page Re Transmission Re Dialing	LAPB	
	CODEC	ITU-T G.711*	—	*μ/A-Law CODEC automatic selection by the country code.
	TEI Management	Automatic TEI Assignment		
	Multiple Link	No		
	Telephone Connection	No		
	Power Save Mode	Yes		Except ODA Version
	Version Available	Only Some European Country		
Network Service	CLIP*	Yes		*Calling Line Identification.
	SUB*	Yes		*Sub addressing.
	MSN*	Yes		*Multiple Subscriber Number.

2. SYSTEM CONFIGURATION

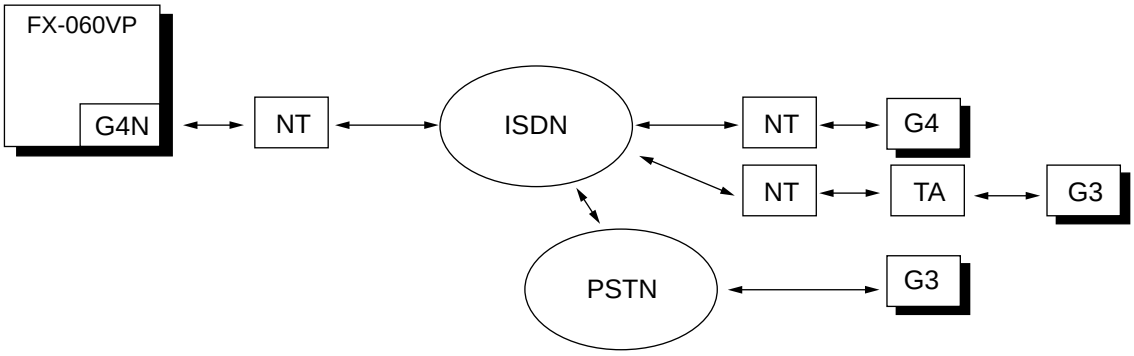
Relationship between OSI model and G4 protocol



Relationship between OSI model and FX-060VP protocol



3. COMPATIBILITY



This machine allows intercommunication with G4 and G3 machines.
When a ISDN board is mounted, the NCU(PSTN) should be removed.

3.1 Transmission to G3 Machine

Automatic fallback function

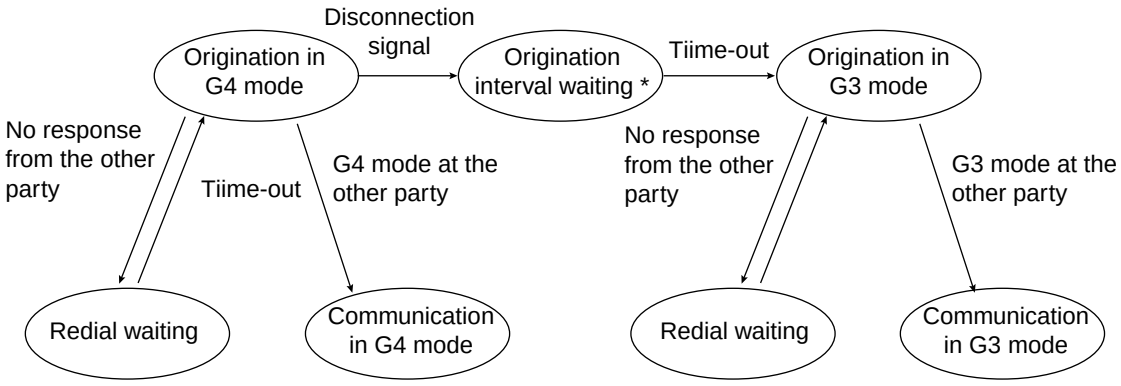
This function enables the caller to originate a call irrelevant to the called terminal type (G3 or G4 machine).

The system first transmits in G4 mode (requesting the network for non-restricted digital transmission) and automatically retransmits in G3 mode (requesting the network for 3.1 kHz audio transmission) according to the disconnection signal (response indicating impossible communication by non-restricted digital transmission) sent from the exchange on the called side.

Since the disconnection signal, however, varies with to the situation of the exchange in of each country, there is a case where the fallback function does not operate to make transmission impossible. (depends on technical setting)

Only in this case, it is necessary to be conscious about the kind of called terminal.
To deal with this case, this machine provides the G3/G4 setting.

Or when remote machine is judged as G3 machine by technical setting (41: G3/G4 LEARNING), FX-060VP can learn that the remote machine is the G3 machine to be ready for the next origination.



* Origination interval waiting
Set by using the PTT parameter (X4FBWAIT). The default is 2 seconds.
If reading the document is not completed after this waiting time has passed upon Instant Dial, origination in G3 mode is started after reading the document is completed.

ISDN DIAL MODE Setting

If dial operation is performed by using Speed Dial, origination in G3 mode or G4 mode is performed depending on the setting of communication parameter (ISDN DIAL MODE).
This communication parameter can be registered for each Speed Dial.
If dial operation is performed by using Ten-key Dial, origination in G3 mode or G4 mode is performed depending on the setting of USER SETTING (ISDN DIAL MODE).
If the remote terminal is a G3 machine against origination in G4 mode, origination in G3 mode is automatically performed. In this case, if dial operation has been performed by using Speed Dial, the setting of communication parameter ISDN DIAL MODE is automatically changed into the G3 mode.
Either G3 or G4 can be selected for origination.
The default is G4.

If ISDN DIAL MODE setting "G4" is selected	Origination in G4 mode is performed. Requests the network of unlimited digital transfer.
If ISDN DIAL MODE setting "G3" is selected	Origination in G3 mode is performed. Requests the network of 3.1 kHz audio transfer.

3.2 Reception from G3 Machine

In terminating a call from a G3 machine, it may sometimes be difficult to identify whether the call is from a G3 machine or from a telephone.
Unless the 3.1 kHz audio transmission is instructed by the information transmission capability or G3 is instructed by upper layer matching, it is impossible to assume that the call is from a G3 machine.

Use pattern on calling origination side	Information transmission capability instructed by the network at the time of call termination
Telephone connected to the PSTN	Instructed by the voice transmission
G3 machine connected to PSTN	
TA+ telephone connected to ISDN	
TA+ G3 machine connected to ISDN	Depending on the specifications for TA, it is instructed by voice transmission or 3.1 kHz audio transmission. Or G3 may be instructed as upper layer matching.

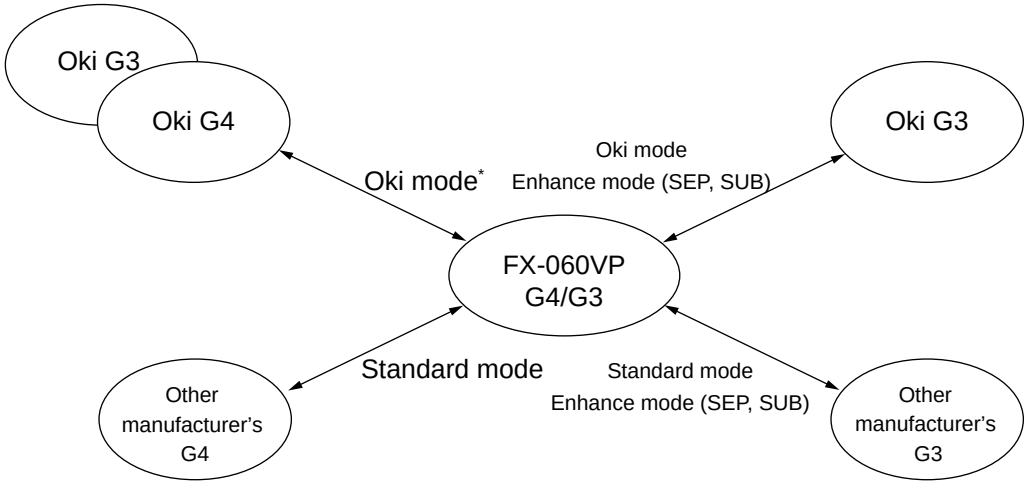
Moreover, consideration should be given to the telephone in case of point to multi-points (P-MP) transmission (when multiple terminals are connected to one line).
To solve this contradiction, it is effective to use Direct Dialing In Service offered by the network.
For the Direct Dialing In Service, this machine supports the MSN restriction.

Speech Receive setting

Acceptance of voice termination can be set.
Select either ON or OFF.
Default is ON.

When voice termination "OFF" is selected	When the information transmission capacity instructed by the network is voice transmission, the incoming call is not answered.
When voice termination "ON" is selected	When the information transmission capacity instructed by the network is voice transmission, the incoming call is answered.

3.3 Session



* If a confidential box or bulletin box (box No. in three digits or more) inappropriate in the Oki mode is specified when originating a call, the call is originated automatically in the G3 mode.

3.4 Presentation

Resolution conversion

The resolution is converted according to the resolution of the transmitted document and capacity of the receiver.

Coding conversion

Coding conversion is carried out according to the coding scheme for the transmitted document and capacity of the receiver.

4. CALL CONNECTION

4.1 Call Origination

Character
There are three dialing methods: speed dialing and ten key dialing.
The characters that can be used when assigning a called telephone number to each speed dialing, and when inputting the destination telephone number in ten key dialing are numerals, ", #, -, P, +, and space. Up to 40 digits can be input.

Character	In case of PSTN	In case of ISDN
0~9	To be transmitted	
*	To be transmitted. And identification selected tone	To be transmitted
#	To be transmitted	To be transmitted
-	Not to be transmitted. Identification of dial control.	Not to be transmitted
P	Not to be transmitted. Identification of pause insert.	Not to be transmitted
+	Not to be transmitted. Identification of chain dial.	Not to be transmitted. Identification of sub address.
Space	Not to be transmitted.	

Call origination function

Call origination function	In case of PSTN	In case of ISDN
Tone selection	Yes	-
Flash control	Yes	-
Pause insertion	Yes	-
Chain dial	Yes	No
On-hook dial	Yes	- HOOK Key is handled as invalid.
Access digit	Yes	- The access digit is not transmitted.
Sub address	-	Yes

Automatic call originating function

Automatic call origination function	In case of PSTN	In case of ISDN
OR destination	Yes	
Automatic redial	Yes	
Manual redial	Yes	
Redialing times	Conforms to the preset REDIAL TIMES setting.	
Redialing intervals	Conforms to the preset REDIAL INTERVAL setting.	
Multi-destination Call Dialing intervals	Conforms to the PTT parameter (XMULTIWAIT) Default is 5 seconds	
Automatic fallback Call Dialig intervals	-	Conforms to the PTT parameter (X4FBWAIT). Default is 2 seconds.

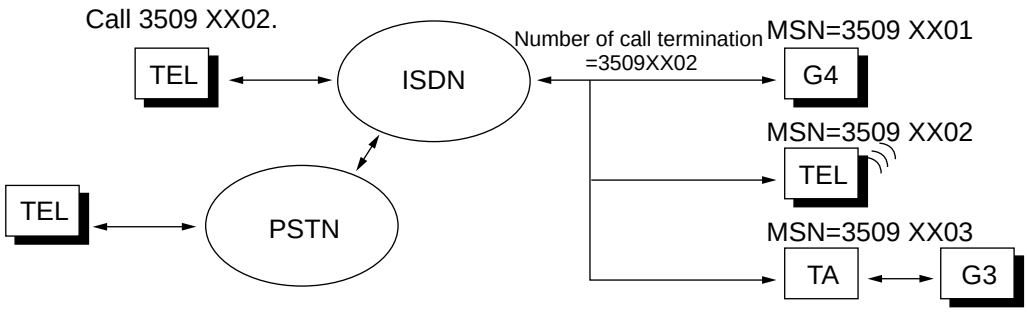
4.2 Call Termination

Call termination function

Call termination function	In case of PSTN	In case of ISDN
Ringing answer time	Conforms to the preset RING RESPONSE TIME setting	Immediately answering
Selection of call termination type	Select one out of FAX, TEL, T/F, TAD, MEM, PC, and FWD.	Select one out of FAX, TEL, MEM, PC, and FWD.
Incoming Ringing	Yes	No

4.3 Direct Dialing In Service

This service is used in point to multi-points (P-MP) transmission to terminate an incoming call to the specified terminal (when multiple terminals are connected to one line).
This can be used in the case of PSTN as a service provided by the network.
In the case of Direct Dialing In Service, multiple additional numbers can be used besides the subscriber number.
It is possible for the user to terminate a call to the specified terminal by assigning these numbers to individual terminals.
When there is an incoming call, the terminal checks the number notified from the network with the MSN registered in its own machine to judge whether the call should be answered.
This is called MSN matching.



MSN matching (Multiple Subscriber Number)

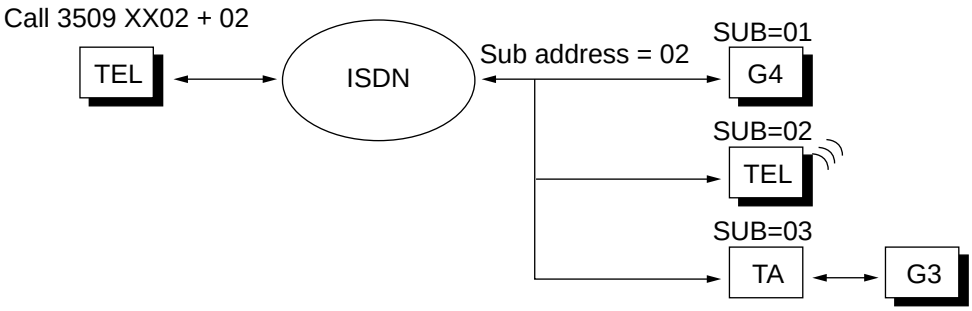
This machine supports the MSN matching for the Direct Dialing In Service.

MSN registration	Number of call termination is available from the network		No number of call terminal from the network
MSN registered	The call termination number matches the MSN	The call termination number does not match the MSN	Do not compare
	Reply to the call termination	Do not reply to the call termination.	
MSN not registered	Do not reply to the call termination.		

This machine uses ISDN number as MSN. Only one ISDN number can be registered in this machine.
The subscriber's number or additional number should be registered in the ISDN number.
The characters that can be used at the time of registration are only numbers, and up to the maximum 20 digits can be input.
For matching, make sure at the time of call termination that the number notified from the network can match the MSN registered in your own machine.
For "Do not Compare": MSN check is not performed. However, depending on the data transmission capability given by the network and the details of lower-layer matching and higher-layer matching, if they exist, whether the termination should be responded is identified.
Moreover, unless the user is a subscriber to the Direct Dialing In Service, the call termination number is not given from the network.

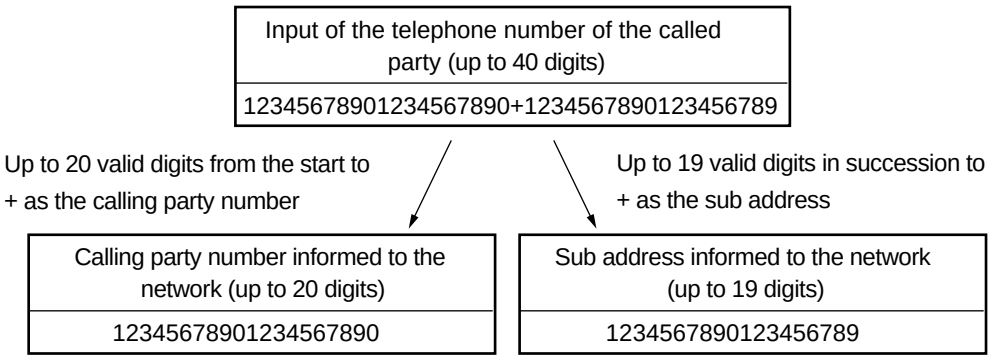
4.4 Sub Address Service

This is the service in which in the case of the use of point to multi-points (P-MP) the call termination to the particular terminal is possible (when multiple terminals are connected to one line).
This cannot be used from PSTN in the service offered by the ISDN.
It is possible for the user to realize the call termination to the particular terminal by allocating an optional number to each terminal.
The call originator should specify the sub address in addition to the telephone number of the other party.
This is called SUB presentation.
At the time of the call termination, the terminal should compare the sub address given from the network with the SUB registered in its own machine to judge whether the call should be answered.
This is called SUB matching.



SUB presentation

This machine supports the SUB presentation for sub address service.
The sub address can be specified at any phase at the time of registration of the phone number of the other party to the Speed Dial, and at the time of input of the telephone number of the other party to the ten key dial.
For specifying the sub address, you have only to input + in addition to the telephone number of the other party to carry out the input of the sub address from now on.
For the sub address, input the optional number determined by the other party.
Moreover, the telephone number of the other party and the valid digits of the sub address are shown below.


Input of the telephone number of the called party (up to 40 digits)
12345678901234567890+1234567890123456789
Up to 20 valid digits from the start to + as the calling party number
Up to 19 valid digits in succession to + as the sub address
Calling party number informed to the network (up to 20 digits)
12345678901234567890
Sub address informed to the network (up to 19 digits)
1234567890123456789

SUB matching

This machine supports the SUB matching for the sub address service.

<table>
<tr><td>SUB registration</td><td colspan="2">The sub address from the network is available.</td><td>No sub address from the network</td></tr>
<tr><td rowspan="2">SUB registered</td><td>SUB matches the sub address</td><td>SUB did not match the sub address</td><td rowspan="2">Do not compare</td></tr>
<tr><td>Respond to the call termination</td><td>Do not reply to the call termination.</td></tr>
<tr><td>SUB not registered</td><td colspan="2">Do not reply to the call termination.</td></tr>
</table>

Only one SUB can be registered against this machine.
Any number determined by the user should be registered in the SUB.
The characters that can be used at the time of registration are only numbers, and up to 19 digits can be input.
For matching, make sure that the sub address given by the network can match the SUB registered in this machine.
At this time, disregard 0 and space that are existent continuously from the top of the sub address, and make sure the sub address matches the SUB.
For "Do not Compare": SUB check is not performed. However, depending on the data transmission capability given by the network and the details of lower-layer matching and higher-layer matching, if they exist, whether the termination should be responded is identified.
Moreover, the sub address is exchanged transparently between terminals.

5. COMMUNICATION

CATEGORY	ITEMS	G3 Mode	G4 Mode	REMARK
Communication (TX)	Manual TX	No		
	Instant Dialing	Yes		
	Feeder TX	Yes		
	Memory TX	Yes		
	Confidential TX	T.30 (SUB) , OKI Mode	OKI Mode	
	Relay Initiate TX	No		
	Poll TX	Yes*		*no password
	Bulletin Poll TX (BOX)	T.30 (SEP)	OKI Mode	
Communication (RX)	Manual RX	No		
	Paper RX	Yes		
	Memory RX	Yes		
	Confidential RX	T.30 (SUB) , OKI Mode	OKI Mode	
	Relay Initiate RX	No		
	Polling RX	Yes		
	Bulletin Poll RX (BOX)	T.30 (SEP)	OKI Mode	
Communication (Others)	Closed User Group	Yes		
	Shorten Protocol	Yes	No	
	Communication parameter	Yes		

6. TERMINAL INFORMATION

Kind of terminal information and requirement for registration

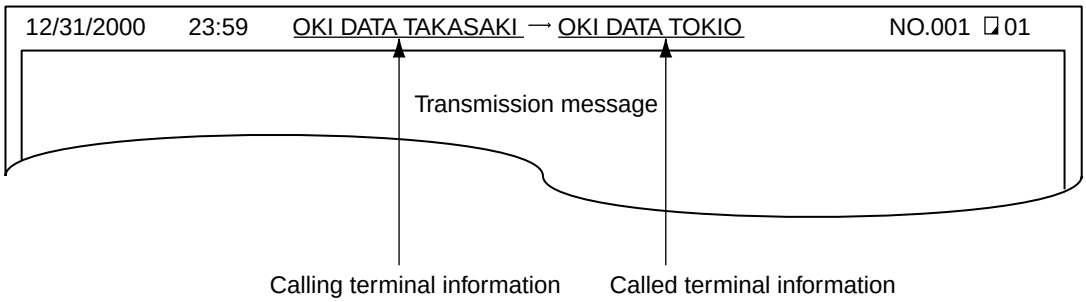
Terminal information		Requirement at the time of registration
Sender ID, Personal ID		Up to the 32 characters including alphabets (lowercase letters are acceptable), numerals, symbols, and special characters can be input.
TSI/CSI		Up to the 20 digits including numerals, + and space can be input.
TID (Terminal Identification)	Country Code	Up to 3 numerals can be input.
	ISDN NO (National Subscriber Number)	Up to 20 numerals can be input.
	ISDN ID (Mnemonic Abbraviation)	Up to 10 alphabets (lowercase letters are acceptable) can be input.
SUB (Sub Addressing)		Up to 19 numerals can be input.

Handling of the terminal information

Terminal information	Handling in the G3 Mode	Handling in the G4 Mode
Sender ID	In the transmission, add to the outside of the upper end of the transmitted message. (Sender ID addition)	
Personal ID	Exchange in the non-standard procedure and use for the display of the other party. But upper 16 characters of the registration data are valid.	
TSI/CSI	Exchange in the standard procedure and used for the display of the other party. Use for TSI/CIL printing. Use for comparison for the closed area communication.	Not used.
TID	Not used.	Exchange in the standard procedure. Use for the display of the other party. Used for TSI/CIL printing. ISDN No is used for check in the closed area communication.
	In the case of call origination, the ISDN NO is used as the calling party number. Used for the network. In the case of call termination, use ISDN NO is used for MSN restriction.	
SUB	Used for SUB matching.	

6.1 Sender ID Addition

Sender ID addition format


12/31/2000 23:59 OKI DATA TAKASAKI → OKI DATA TOKIO NO.001 □01
Transmission message
Calling terminal information
Called terminal information

Calling terminal information and called terminal information

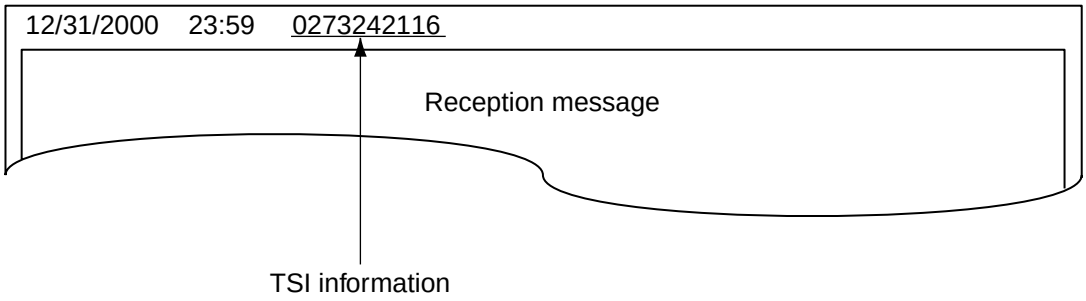
Priority	G3 Mode			G4 Mode		
	Calling terminal information	Called terminal information*3		Calling terminal information	Called terminal information*3	
		ID priority*1	CSI priority*1		ID priority*1	CSI priority*1
High	32Sender ID	16Personal ID	20CSI	32Sender ID	16Personal ID	24Called TID
Low	20TSI*4	20CSI	24Telephone number of the other party*2	24Calling TID	24Called TID	24Telephone number of the other party*2
		15Registration ID of the other party	16Personal ID		15Registration ID of the other party	16Personal ID
		24Telephone number of the other party*2			24Telephone number of the other party*2	

The numbers on left top show the maximum digits in display.

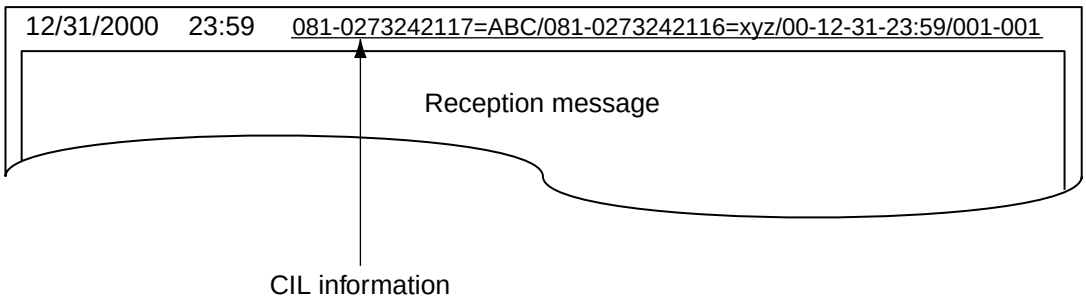
*1 ID priority and CSI priority conform to the ID/TSI PRIORITY setting.
*2 The destination telephone number can be input in up to 40 digits. Lower 24 digits are displayed as the called terminal information.
*3 The sender ID addition is edited upon reading the document.
Therefore, in the action such as reading the document before starting communication (memory transmission, Instant Dialing), the called terminal information that is transmitted after starting communication (Personal ID, CSI, Called TID) cannot be displayed.
*4 In the case of actions such as reading the document before starting communication (memory transmission, Instant Dialing), if the automatic fallback from G4 mode to G3 mode is carried out, Calling TID is displayed.

6.2 TSI/CIL Printing

TSI print format



CIL print format



CIL format

Field 1	/	Field 1	/	Field 3	/	Field 4
Called TID		Calling TID		Date/time information YY-MM-DD-HH:MM The date/time information when starting communication is given from the transmitter.		Supplementary reference information Document information and page information Given by the transmitter This machine assigns the session number (3 digits) to document information and the page number (3 digits) to page information.
Up to 24 characters	1	Up to 24 characters	1	14 characters	1	7 characters
Up to 72 characters						

TID format

Part 1	-	Part 3	Part 3	=	Part 4
Country Code		Subscriber number This machine indicates the range that can be displayed from the last digit of ISDN NO.	Additional information This machine does not indicate.		Abbreviation of the subscriber This machine indicates the range that can be displayed from the first digit of ISDN NO.
Up to 4 characters	1	Up to 12 characters	Up to 4 Characters	1	3 characters or more
Up to 15 characters					
Up to 24 characters					

6.3 LCD Indication During Communication

Address indication during CALLING
The first line on the LCD indicates the ID registered for Speed Dial.
The second line on the LCD indicates the dial number.

Address indication during communication
Either Personal ID, TSI/CSI (Calling TID/Called TID in G4 mode), ID registered for Speed Dial, or dial number is indicated.

Communication type
SENDING/RECEIVING/MEMORY-RX

Communication mode
G3/G4

Transmission rate
64000/33600/31200/28800/26400/24000/21600/192000/16800/14400/12000/9600/7200/4800/2400

7. REPORT

7.1 Activity Report Recording

Record contents

Content	Handling in G3 mode		Handling in G4 mode	
	Transmission	Reception	Transmission	Reception
DATE	Date of communication			
TIME	Time when DCS/NSS is transmitted	Time when DCS/NSS is received	Time when CDS is transmitted	Time when CDS is received
S,R-TIME	Time between DCS/NSS transmission and link opening	Time between DCS/NSS reception and link opening	Time between CDS transmission and link opening	Time between CDS reception and link opening
DISTANT STATION ID	See the Distant Station ID section.			
MODE	See the Mode section.			
PAGES	Number of pages sent or received normally			
RESULT	OK, NG, etc. as the result of communication			
Service Code	See the Service Code section.			

Distant Station ID

Priority	G3 mode				G4 mode			
	Transmission		Reception		Transmission		Reception	
High	ID priority*1	CSI priority*1	ID priority*1	TSI priority*1	ID priority*1	CSI priority*1	ID priority*1	TSI priority*1
	16Personal ID	20CSI	16Personal ID	20TSI	16Personal ID	24Called TID	16Personal ID	24Calling TID
	20CSI	24Destination telephone number*2	20TSI	16Personal	24Called TID	24Destination telephone number*2	24Calling TID	16Personal ID
	15Destination registration D	16Personal ID			15Destination registration D	16Personal ID		
Low	24Destination telephone number*2				24Destination telephone number*2			

Figures at left shoulder shown the maximum number of digits to be displayed.

*1 ID priority and CSI (TSI) priority conform to the ID/TSI PRIORITY setting.

*2 Up to 40 digits can be input as the destination telephone number, but lower 24 digits can be displayed as the called terminal information.

Mode

Communication service	Handling in G3 mode	Handling in G4 mode
TX	TX	TX-G4
Poll TX	POLL-TX	ROLL TX-G4
Bulletin Poll TX	POLL=00	POLL=00-G4
Bulletin Poll TX (BOX)	POLL= (BOX No.)	POLL= (BOX No.) -G4
Broadcast	B.C.	
RX	RX	RX-G4
Polling RX	POLL RX	POLL RX-G4
Confidential RX	CONF= (BOX No.)	CONF= (BOX No.) -G4

7.2 Protocol Dump

The printing image is as follows:

PROTOCOL DUMP P1

06/25/2003 19:00
ID=OKI TAKASAKI

DATA	TIME	S,R-TIME	DISTANT STATION ID	MODE	PAGES	RESULT
06/25	14:49	00’07"	OKI SHIBAURA(6412)	TX-G4	02	OK 0000

Dch.

TX	SETUP CONN-ACK +Bch+ DISC REL-C
RX	STATUS SETUP-ACK CONN +Bch+ REL
TX	
RX	

Bch.

TX	SABM SQ CR TCR CSS CDCL CDS CDUI CDPB CDUI CDPB CDUI CDPB CDUI CDUI
RX	UA SF CC TCA RSSP RDCLP RDPBP RDPBP RDPBP
TX	CDE CQ DISC
RX	RDEP CF UA
TX	
RX	
TX	
RX	

COMMN MODE
T.90

COMMN SPEED
64 kbps

FLOW CONTROL PA RAM.
2048(SPS)/7(SWS)/2048(RPS)/7(RWS)

TID
081-0273242117 =OKITAKASAKI

SETUP
08 01 05 05 04 02 88 90 6C 02 00 80 70 0B 80 30 32 37 33 32 38 30 30 30 31 7C 03 88 90 A9 7D 02
91 A1 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

DISC
45 16

PROTOCOL DUMP P2

```
CR/CN
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CA/CC
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00

CQ/CI
00 00 00 00 00

RQ/RI
00 00 00 00 00

SQ/SI
00 00 00 00 00

TBR
 00

TCC
00

TCR
09 E0 00 00 00 01 00 C0 01 0B 00 00 00 00 00 00

TCA
09 D0 00 01 00 01 00 C0 01 0B 00 00 00 00 00 00

CSS
0D 6F 01 2A 0A 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 37 2D 30 38 2D 32 37 2D 31 34 2D 34 34 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 2F 00 01 79 00 E0 1C C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 C4 04
30 30 30 30 E1 0B E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RSSP/RSSN
0E 69 01 2A 09 18 30 38 31 2D 3D 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 0B 0E
39 38 2D 30 36 2D 30 32 2D 31 33 3A 34 36 02 03 0E 01 01 08 01 01 C1 08 A4 06 80 01 02 81 01 00
E8 29 00 01 79 00 E0 16 C1 10 50 61 6E 61 66 61 78 20 55 46 2D 42 38 30 20 20 C2 02 36 35 E1 0B
E0 06 C0 01 01 C1 01 01 C1 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

CDCL
3D 58 12 01 3C C1 4D A4 4B 80 01 02 81 01 00 A2 3C A2 32 30 08 80 02 26 C0 81 02 36 CE 30 08 80
02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C 30 08 80 02 2E 23 81 02 41 25 30 08 80 02 36
CE 81 02 4D 80 A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0 01 01 E8 04 00 01 49 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

RDCLP
3E 40 C1 3E A4 3C 80 01 02 81 01 00 A2 25 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30 08 80 02 2F 6C
81 02 43 2C 30 08 80 02 2F 6D 81 02 43 2C A4 03 8B 01 04 E4 0D E0 06 02 01 02 02 01 03 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDS
2D 40 29 03 30 30 31 C1 39 A4 37 80 01 02 81 01 00 A2 28 A2 1E 30 08 80 02 26 C0 81 02 36 CE 30
08 80 02 2F 6D 81 02 43 2C 30 08 80 02 2F 6C 81 02 43 2C A4 06 8B 01 04 8B 01 01 E4 05 E1 03 C0
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
CDUI
01 00 A2 03 02 01 00 A2 1B 02 01 02 31 16 A4 08 80 02 26 C0 81 02 36 CE A6 05 A1 03 82 01 01 E9
03 C0 01 00 A3 80 31 06 A2 04 80 02 06 C0 24 80 04 82 07 90 01 01 00 00 00 00 00 00 00 00 00 00
01 01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
```

8. MAINTENANCE

8.1 Self-diagnostic Result Printing

Description

Description		Diagnosed position	Content
Item	Result		
ISDN BOARD	OK/NG nn	I/F between boards and ISDN LSI	See the ISDN Board section.
CPU-ROM VERSION	vvvv	CPU Built-in ROM 64Kbytes Built-in RAM 4Kbytes	ROM version and hash (expected value) stored at addresses 000FFF8h to 000FFFFh
CPU-ROM HASH	OK/NG, hhhh		Hash check for addresses 0000000h to 000FFF7h
CPU-RAM	OK/NG		R/W check for addresses FFFF000h to FFFFFFFh
PROGRAM VERSION	vvvv	FLASH 512Kbytes	ROM version and hash (expected value) stored at addresses E077FF8h to E077FFFh
PROGRAM HASH	OK/NG, hhhh		Hash check for addresses E000000h to E077FF7h
RAM	OK/NG	DRAM 2Mbytes	R/W check for addresses 9000000h to 91FFFFFh
DPRAM	OK/NG	Dual Port RAM 2Kbytes	R/W check for addresses 2000000h to 20007FFh

nn: Error information in a decimal number
vvvv: Version number in alphanumeric characters
hhhh: Hash (calculated value) display in a hexadecimal number.

ISDN Board

nn	Status on ISDN board side	Description
01	Waiting for PC loading	The BOOT2 signal from the host side at the time of power on is set to PC loading.
02	Board abnormality	The ISDN board program hash is NG upon power on.
03		The initial sequence between boards cannot be executed in 10 seconds after power on. (The status window does not indicate a normal value.)
04		The initial sequence for ISDN LSI is not executed upon power on. (No response or NG response to the command.)
05	ISDN LSI abnormality	The result of ISDN testing function (RAM test, ROM test or loop test) is NG. (Approx. 400 msec.)

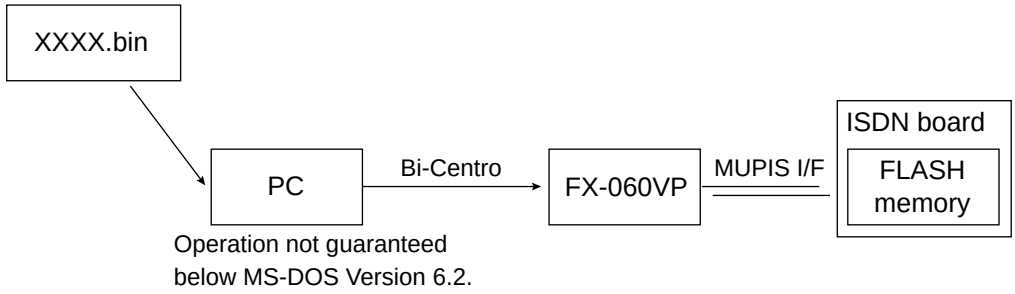
When nn=01, 02, 03, CPU-ROM version or later is not listed.

8.2 Line Test

Test Items

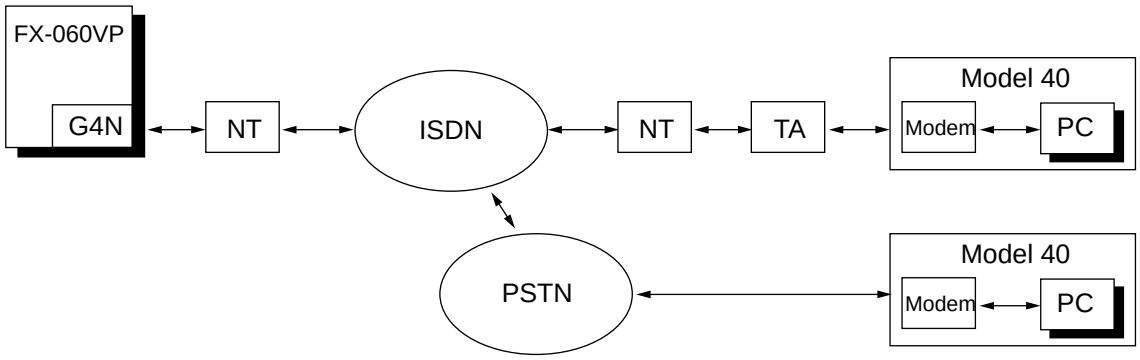
Test item	Handling in PSTN operation	Handling in ISDN operation
Modem transmission test	Yes	No
Modem reception test	Yes	No
Tone transmission test	Yes	No
MF transmission test	Yes	No
Rringback tone transmission	Yes	No
Loopback test 1 (all channel loopback)	—	Yes
Loopback test 2 (echo loopback)	—	Yes
INFO0 signal output	—	Yes
INFO1 signal output	—	Yes
INFO3 signal output	—	Yes
Isolated pulse pattern output (1 kHz)	—	Yes
Combined pulse pattern output (2 kHZ normal polarity)	—	Yes
Combined pulse pattern output (2 kHz reverse polarity)	—	Yes

8.3 PC Loading



Program loading from a PC to the ISDN board can be performed by using the COPY command of DOS.

8.4 Remote maintenance (RMCS)

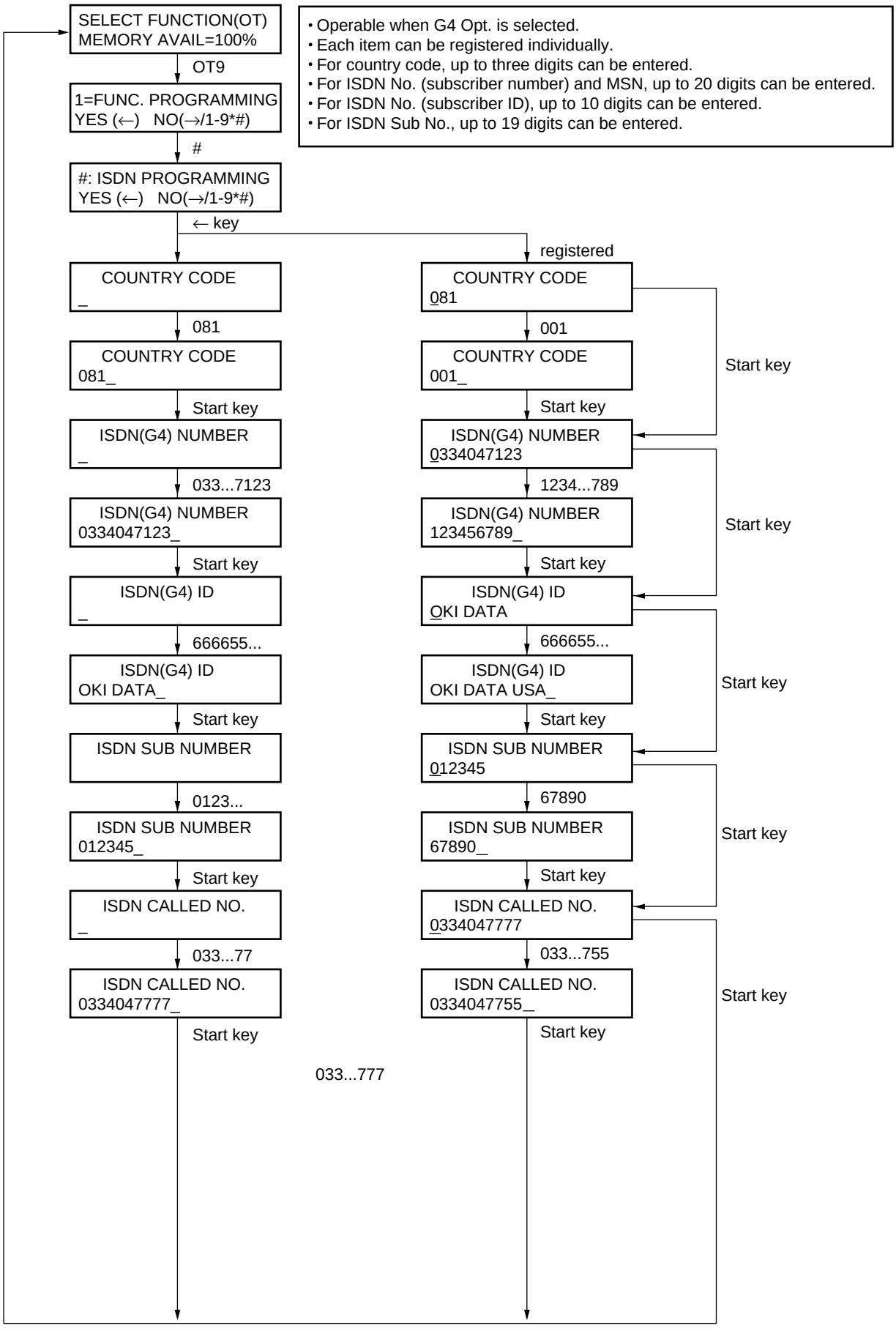


ITEMS		CONTENTS	REMARK
Hardware		General FAX Modem*	*Using function of TIA/EIA Class1
Curent Function (Initialization, LOAD*1, SAVE, EDIT, TEST*2)		Available	
Transmission Speed	Up Load (PC⇒FAX)	14.4kbps, 12kbps, 9.6kbps, 7.2kbps, 4.8kbps, 2.4kbps	
	Down Load (FAX⇒PC)	2.4kbps	

Communication with the center (PC) is enabled when the RMCS setting of this equipment is set to ON.
The equipment operates to automatically receive incoming voice calls irrelevant to the state of SPEECH RECEIVE setting is on.

*1 Use the LOAD command for program loading to the terminal. Loading to the ISDN board is also possible.
*2 Use the TEST command for terminal ROM/RAM check, and also for ISDN board ROM/RAM check.

9. SETUP FLOW


SELECT FUNCTION(OT)
MEMORY AVAIL=100%
OT9
1=FUNC. PROGRAMMING
YES (←) NO(→/1-9*#)
#
#: ISDN PROGRAMMING
YES (←) NO(→/1-9*#)
← key
registered
• Operable when G4 Opt. is selected.
• Each item can be registered individually.
• For country code, up to three digits can be entered.
• For ISDN No. (subscriber number) and MSN, up to 20 digits can be entered.
• For ISDN No. (subscriber ID), up to 10 digits can be entered.
• For ISDN Sub No., up to 19 digits can be entered.
COUNTRY CODE
_
081
COUNTRY CODE
081_
Start key
ISDN(G4) NUMBER
_
033...7123
ISDN(G4) NUMBER
0334047123_
Start key
ISDN(G4) ID
_
666655...
ISDN(G4) ID
OKI DATA_
Start key
ISDN SUB NUMBER
0123...
ISDN SUB NUMBER
012345_
Start key
ISDN CALLED NO.
_
033...77
ISDN CALLED NO.
0334047777_
Start key
COUNTRY CODE
081
001
COUNTRY CODE
001_
Start key
ISDN(G4) NUMBER
0334047123
1234...789
ISDN(G4) NUMBER
123456789_
Start key
ISDN(G4) ID
OKI DATA
666655...
ISDN(G4) ID
OKI DATA USA_
Start key
ISDN SUB NUMBER
012345
67890
ISDN SUB NUMBER
67890_
Start key
ISDN CALLED NO.
0334047777
033...755
ISDN CALLED NO.
0334047755_
Start key
Start key
Start key
Start key
Start key
033...777

10. SETTING/REGISTRATION LIST

Setting

Service man setting	Selection	Explanation
G3/G4 LEARNING	ON	Learns the call as in G3 mode when the destination registered in O/T and A/D cannot communicate three times consecutively in G4 mode but in G3 mode.
	OFF	Does not learn.
LLC CHECK	OFF	The lower layer compatibility information instructed from the calling side is not analyzed.
	ON	The lower layer compatibility information instructed from the network is analyzed.
G3 SETUP BC	SPEECH	Speech is declared with SETUP command when the call is originated in G3 mode.
	3.1KHz	3.1KHz is declared with SETUP command when the call is originated in G3 mode.
G3 FALLBACK CAUSE		Disconnect signal types correspond to the service codes BAxx. A call to be redialed in the G3 mode can be specified with a service code.

User setting	Selection	Explanation
ISDN DIAL MODE	G3	The call is originated in the G3 mode upon ten key dialing. 3.1 kHz audio transmission is requested to the network.
	G4	The call is originated in the G4 mode upon ten key dialing. Non-restricted digital transmission is requested to the network.
SPEECH RECEIVE	OFF	The incoming call is not answered when the information transmission capability instructed from the network is speech transmission.
	ON	The incoming call is answered when the information transmission capability instructed from the network is speech transmission.

Communication parameter	Selection	Explanation
ISDN DIAL MODE	G3	The call is originated in the G3 mode upon Speed Dialing. 3.1 kHz audio transmission is requested to the network.
	G4	The call is originated in the G4 mode upon Speed Dialing. Non-restricted digital transmission is requested to the network.

Registration

Item	Condition for registration	Explanation
ISDN COUNTRY CODE (Country Code)	Up to three numeric digits are allowed to be input.	This is used as a terminal identifier (TID).
ISDN NO (National Subscriber Number)	Up to 20 numeric digits are allowed to be input.	This is used as a terminal identifier (TID) and for caller number information (CLIP) and MSN check (MSN).
ISDN ID (Mnemonic Abbrevlation)	Up to 10 alphabets (including lower-case characters) are allowed to be input.	This is used as a terminal identifier (TID).
ISDN SUB (Sub Addressing)	Up to 19 numeric digits are allowed to be input.	This is used for SUB addressing check (SUB).
ISDN CALLED No.	Up to 20 numeric digits are allowed to be input.	This is used as the MSN check(MSN).

11. SERVICE CODE LIST

Classification	Code	Description
Dch layer 2	BB02	LSI NG
	BB04	Link release by network
	BB05	TEI release by network
	BB06	TEI verification procedure failure
Dch layer 3	BA01	Unallocated (unassigned) number
	BA02	No route to specified transit network
	BA03	No route to destination
	BA06	Channel unacceptable
	BA07	Call awarded and being delivered in an established channel
	BA11	User busy
	BA12	No user responding
	BA13	No answer from user (user alerted)
	BA15	Call rejected
	BA16	Number changed
	BA1A	Non-selected user clearing
	BA1B	Destination out of order
	BA1C	Invalid number format
	BA1D	Facility rejected
	BA1E	Response to STATUS-ENQUIRY
	BA1F	Normal, unspecified
	BA22	No circuit/channel available
	BA26	Network out of order
	BA29	Temporary failure
	BA2A	Switching equipment congestion
	BA2B	Access information discarded
	BA2C	Requested circuit/channel not available
	BA2F	Resources unavailable, unspecified
	BA31	Quality of service unavailable
	BA32	Requested facility not subscribed
	BA39	Bearer capability not authorized
	BA3A	Bearer capability not presently available
	BA3F	Service or option not available, unspecified
	BA41	Bearer capability not implemented
	BA42	Channel type not implemented
	BA45	Requested facility not implemented
	BA46	Only restricted digital information bearer capability is available
	BA4F	Service or option not implemented, unspecified
	BA51	Invalid call reference value
	BA52	Identified channel does not exist
	BA53	A suspended call exists, but this call identity does not
	BA54	Call identity in use
	BA55	No call suspended
	BA56	Call having the requested call identity has been cleared
	BA58	Incompatible destination
	BA5B	Invalid transit network selection
	BA5F	Invalid message, unspecified
	BA60	Mandatory information element is missing
	BA61	Message type non-existent or not implemented
	BA62	Message not compatible with call state or message type non-existent or not implemented
	BA63	Information element non-existent or not implemented
	BA64	Invalid information element contents
	BA65	Message not compatible with call state
	BA66	Recovery on timer expiry
	BA6F	Protocol error, unspecified
	BA7F	Interworking, unspecified
	BB01	CONN message wait time out
	BB07	Reset request by network

Classification	Code	Description
Bch layer 2	BC02	N2 times time out
	BC03	FRMR reception
	BC04	FRMR transmission
	BC05	The other party link disconnection
	BC08	T3 time out
	BD01	SABME wait time out
Bch layer 3	B201	The other party terminal busy
	B203	Incorrect facility request
	B205	Network congestion
	B209	Connection impossible (failure or absent)
	B210	Packet that is not adaptable to status transition (Packet level ready state)
	B211	Remote procedure error
	B212	Packet that is not adaptable to status transition (DTE restart request state)
	B213	Local procedure error
	B214	Packet that is not adaptable to status transition (Empty state)
	B215	Packet that is not adaptable to status transition (CO packet wait)
	B216	Packet that is not adaptable to status transition (CA packet wait)
	B217	Packet that is not adaptable to status transition (During data transmission)
	B218	Packet that is not adaptable to status transition (Outgoing/incoming collision)
	B219	Packet that is not adaptable to status transition (CQ packet)
	B221	Unallowable packet (Packet type not clear)
	B222	Unallowable packet (Call by special incoming logic channel)
	B226	Unallowable packet (Too short packet)
	B227	Unallowable packet (Too long packet)
	B229	Unallowable packet (Restart packet in which LCN or LCGN is not 0)
	B22A	Unallowable packet (Packet that is not adaptable to the facility)
	B231	Timer time out (CA packet wait time out)
	B232	Timer time out (CF packet wait time out)
	B233	Timer lapsed (PR/RNR packet wait time out)
	B241	Call setting problem (unallowable facility code)
	B242	Call setting problem (unallowable facility parameter)
	B243	Call setting problem (incoming address is invalid)
	B244	Call setting problem (outgoing address is invalid)
	B245	Call setting problem (invalid facility length)
	B246	Call setting problem (call termination reject)
	B247	Call setting problem (No empty logic channel)
	B248	Call setting problem (outgoing/incoming collision)
	B249	Call setting problem (overlapped facility request)
	B24A	Call setting problem (address length other than zero)
	B24B	Call setting problem (facility length other than zero)
Bch layer 4	B702	Reception TDT length over
	B703	TDT length negotiation unsuccessful
	B704	Invalid block received
	B705	Abnormal parameter received
	B706	Illegal block received
	B707	TCR wait time out (T0.2 T.O)
	B708	TCA wait time out (T1.1 T.O)
	B709	Communication interruption due to TCC reception
	B70A	Communication interruption due to TBR reception

Classification	Code	Description
Bch layer 5	B901	Command response reception error
	B902	Non-implicit command response received
	B903	Lack of essential parameter
	B904	Invalid parameter reception
	B905	Invalid parameter value reception
	B906	Window size over reception
	B907	Document reference number error
	B908	Length illegal
	B909	Check point error
	B90A	Unallowable document
Bch layer 6	B801	Command response reception error
	B802	Parameter reception error
	B803	Negotiation unsuccessful RSSP reception
	B804	Negotiation unsuccessful RSSN reception
	B805	CSCC at the time when the transmission right cannot be reversed
	B806	CSA reception
	B809	Error recovery time out
	B80A	Time out at the time of termination
	B80B	Close wait time out
	B80C	CSE reception before close
Bch layer 7	AE01	Negotiation unsuccessful (requirement for communication with the other party FAX is not met)
	AE02	Negotiation unsuccessful (only the other party standard)
	AE03	The other party SUD fault
	AE04	Basic terminal function unmatched
	AE05	Switching type unmatched
	AE06	The other party TU fault

APPENDIX H PC-LOADING

1. General

1.1 Application

This specification applies to the FX-060VP, an MFP unit capable of two-way communication using the parallel port to use the functions included in this specification, it is necessary to mount the optional Centro board.

1.2 General

This specification describes the details of PC loading through the Centro connector provided in the FX-060VP.
The functions covered are for loading by each of default data, flash memory program and language areas, which are equivalent to those of the existing HSLS.
You should download the file from DOS prompt ; not DOS-window.

* I-FAX NIC F/W cannot be loaded by PC-LOADING.

1.3 Note on Explanation

The terms used herein shall be interpreted as follows unless specified otherwise.

Term	Explanation
Transfer	Transmission from the PC to the MFP
Receiving	Receiving from the PC to the MFP
Loading data	Data in general that is transferred from the PC to the MFP
Loading program	Program for receiving the data actually loaded to the MFP

1.4 Related Document

FX-060VP Product Specification

2. Basic Operation

2.1 Supported Functions

The PC loading functions described herein are as follows. Functions equivalent to those used in the existing HSLS (High Speed Loading System) are supported.

1. Default data area loading function
2. Language area loading function
3. Flash memory area program loading function

These PC loading functions are supported only when the OS used on the PC side is either MS-DOS Ver. 6.0 or above or PC-DOS Ver. 6.0 or above.

* I-FAX NIC F/W cannot be loaded by PC-LOADING.

2.2 Differences from HSLS

It must be noted that PC loading through the Centro cable is different in the following points as compared with loading in the HSLS:

(1) While transition to the PC loading process is judged according to the presence/absence of the HSLS board, transition to PC loading is possible by detection of memory error occurrence and manual key operation this time.

(2) The header information is added anew to cope with the addition of the loading program as one of the loading data.

(3) There is no special application in this PC loading unlike the HSLS. Loading is performed by loading data output to the parallel port by means of a binary specification (copy/b).

(4) In the case of the HSLS, returning to normal standby state will not occur so long as the HSLS board is installed. In this system, on the other hand, the normal standby state is set automatically upon detection of the end of loading data by means of the header data.

(5) The cause of the error is displayed by the corresponding code upon occurrence of a hash NG or other error. For the code, see “6. List of Error Causes and Corresponding Codes.”

3. PC Loading Procedure

3.1 PC Loading upon Memory Error Occurrence

3.1.1 Explanation on Procedure

The PC loading procedure when the LCD on the FX-060VP displays “MEMORY ERROR” for a hash NG state due to one reason or another is explained below.

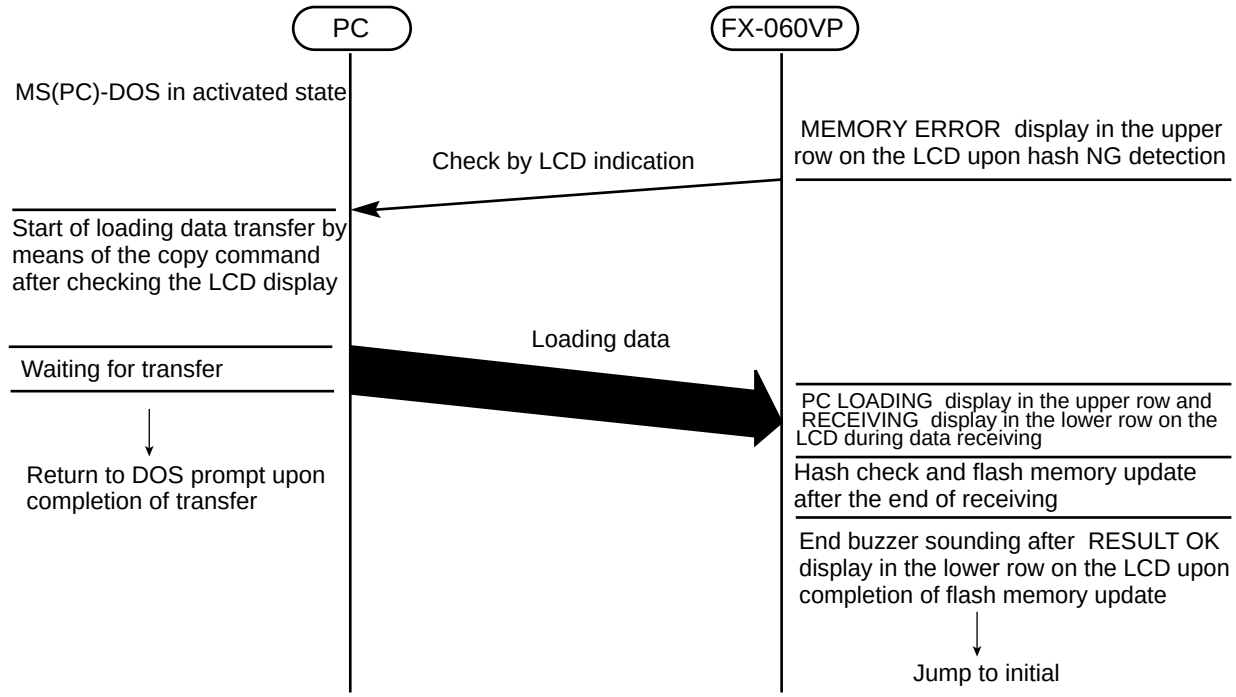
(1) Activate the MS(PC)-DOS with the host PC and the FX-060VP connected via the Centro cable.

(2) Input the copy command from the MS(PC)-DOS on the PC to output the loading data file in binary specification to the LPT1 in order to transfer the loading data to the FX-060VP.

Example:
`>copy/b xxx.x LPT1` (xxx.x is the loading data file name.)

(3) The user shall judge the normal end of data loading by checking the normal end of file output on the PC and sounding of the buzzer indicating the normal end on the FX-060VP. If the FX-060VP displays an error on the LCD, sounds the buzzer for an error or lights up the alarm LED, the user shall judge abnormal end of data loading from the PC and repeat the procedure from step 2 after turning the FX-060VP power off once and to on again.

3.1.2 Procedural Sequence Diagram


PC
FX-060VP
MS(PC)-DOS in activated state
MEMORY ERROR display in the upper row on the LCD upon hash NG detection
Check by LCD indication
Start of loading data transfer by means of the copy command after checking the LCD display
Loading data
Waiting for transfer
PC LOADING display in the upper row and RECEIVING display in the lower row on the LCD during data receiving
Return to DOS prompt upon completion of transfer
Hash check and flash memory update after the end of receiving
End buzzer sounding after RESULT OK display in the lower row on the LCD upon completion of flash memory update
Jump to initial

3.2 PC Loading by Manual Operation

3.2.1 Explanation on Procedure

Loading shall be performed as shown below when the PC loading function is selected by key operation by a service man.

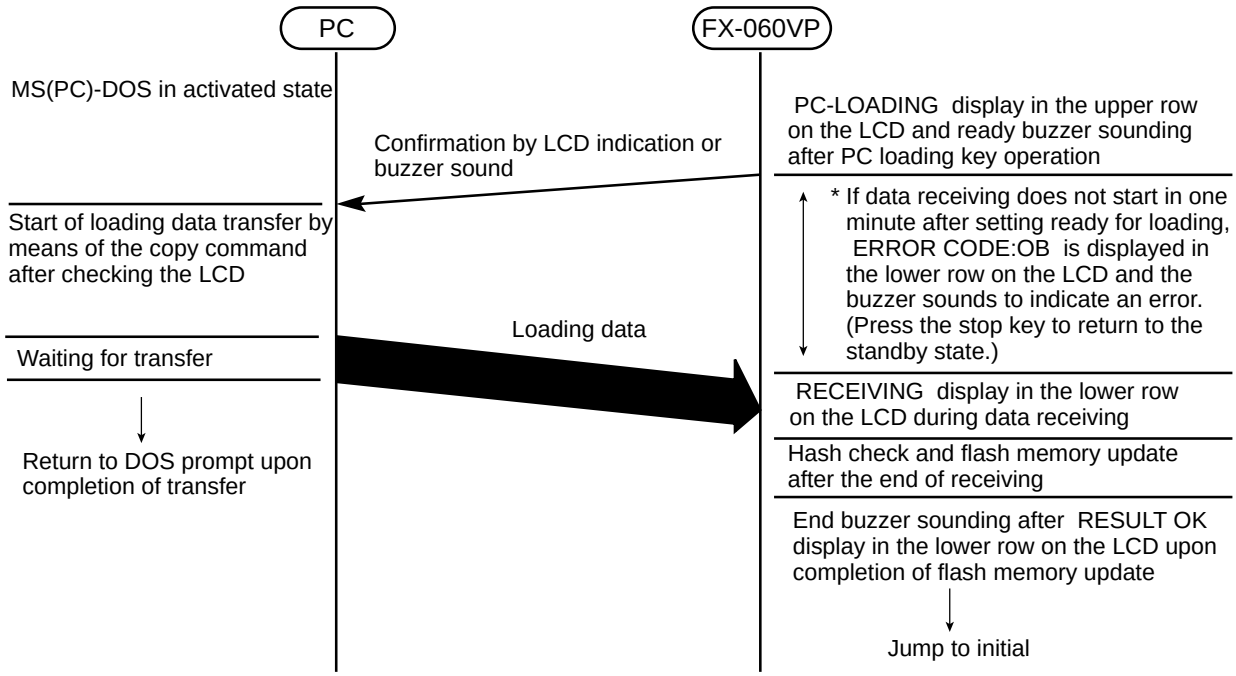
(1) Activate the MS(PC)-DOS with the host PC and the FX-060VP connected via the Centro cable.

(2) Input the copy command from the MS(PC)-DOS on the PC to output the loading data file in binary specification to the LPT1 in order to transfer the loading data to the FX-060VP.

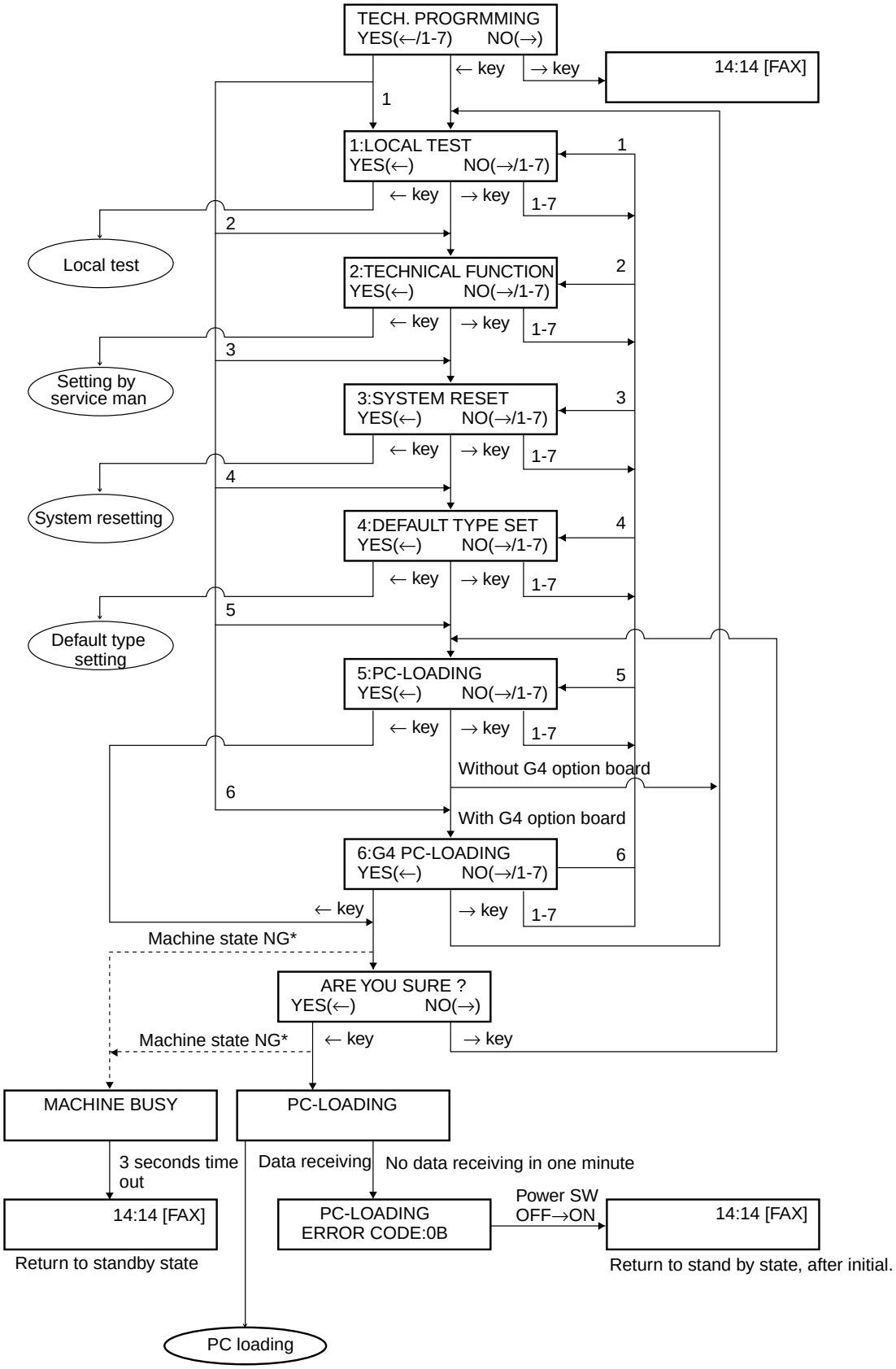
Example:
`>copy/b xxx.x LPT1` (xxx.x is the loading data file name.)

(3) The user shall judge the normal end of data loading by checking the normal end of file output on the PC and sounding of the buzzer indicating the normal end on the FX-060VP. If the FX-060VP displays an error on the LCD, sounds the buzzer for an error or lights up the alarm LED, the user shall judge abnormal end of data loading from the PC and repeat the procedure from step 2 after turning the FX-060VP power off once and to on again. (See “6. List of Error Causes and Corresponding Codes” for the error cause.)

3.2.2 Procedural Sequence Diagram


PC
FX-060VP
MS(PC)-DOS in activated state
PC-LOADING display in the upper row on the LCD and ready buzzer sounding after PC loading key operation
Confirmation by LCD indication or buzzer sound
Start of loading data transfer by means of the copy command after checking the LCD
* If data receiving does not start in one minute after setting ready for loading, ERROR CODE:OB is displayed in the lower row on the LCD and the buzzer sounds to indicate an error. (Press the stop key to return to the standby state.)
Loading data
Waiting for transfer
RECEIVING display in the lower row on the LCD during data receiving
Hash check and flash memory update after the end of receiving
End buzzer sounding after RESULT OK display in the lower row on the LCD upon completion of flash memory update
Return to DOS prompt upon completion of transfer
Jump to initial

3.2.3 Operation Flow



* image in memory, redial, delayed fax, alarm (except NO PAPER, TONER LOW/NO IDunit), and OFF HOOK, operate different way, dotted lines.

Note: When G4 option board is not installed, the lowest display of LCD is shifted from "No (→/1-6)" to "No (→/1-5)" and "6" selection from each screen cannot be set.
"No(→/1-7) is displayed when installed with an I-FAX NIC option.

4. LCD Messages

The LCD message in each operation state is shows below. Note that each message does not vary with the default type or language type.

(1) Upon transition to PC loading function

Transition by manual operation

```
PC-LOADING
```

Transition by a memory error

```
MEMORY ERROR
```

(2) During data receiving before loading end buzzer sounding

```
PC-LOADING
RECEIVING
```

(3) During loading end buzzer sounding

```
PC-LOADING
RESULT OK
```

(4) Upon error occurrence during loading

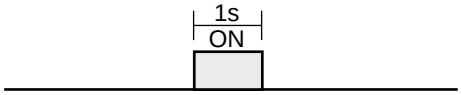
```
  PC-LOADING
ERROR   CODE:**
```

"**": Error code (See "6. List of Error causes and Corresponding Codes.")

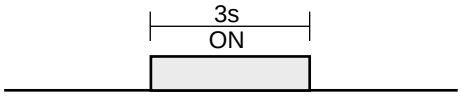
5. Buzzer Sounding Patterns

The buzzer sounding patterns for various cases are shown below. In each case, the buzzer frequency is 2,400 Hz and the sound volume is maximum.

5.1 Upon Start of PC Loading



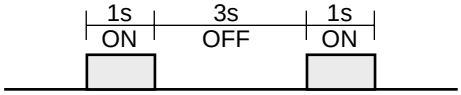
5.2 Upon Normal End



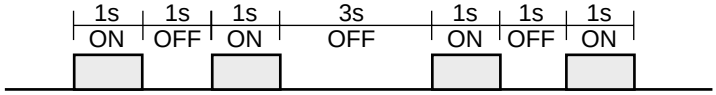
5.3 Upon Error Occurrence

The following sounding patterns are provided for indicating various error causes. Intermittent sounding is repeated until the FX-060VP power is turned off. See “6. List of Error Causes and Corresponding Codes” for details of the error causes and codes.

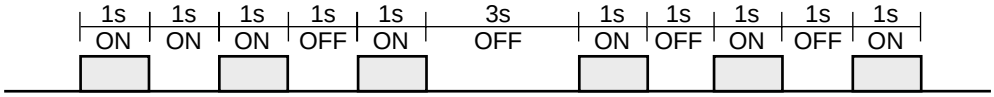
(1) Receive data hash check NG (error code: “01”)



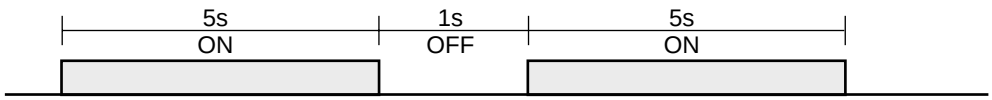
(2) Flash memory erase/write NG (error code: “02”)



(3) Disagreement between contents of flash memory and external RAM (error code: “03”)



(4) Other error (error code: other other than above)



6. List of Error Causes and Corresponding Codes

The table below lists the error causes likely to occur during PC loading and the corresponding codes. When an error occurs, the corresponding error code is displayed, the buzzer sounds in the corresponding pattern and transition to the permanent loop state occurs. (See Note 1.)

See “4. LCD Messages” and “5. Buzzer Sounding Patterns” for the LCD display and buzzer sound upon occurrence of each error.

No.	Error cause	CODE
1	Timeout of data receiving waiting timer (14 seconds)	00
2	Loading data hash check error	01
3	Flash memory erase/write error	02
4	Disagreement between flash memory and external RAM contents (verify error)	03
5	Header sum check NG *1	04
6	Disagreement between loading machine type and machine identifier in header *1	05
7	Designation of unspecified parameter in header *1	06
8	Extended address record sum check NG *2	07
9	Data record sum check NG *2	08
10	Start address record sum check NG *2	09
11	File end record sum check NG *2	0A
12	Timeout by failure in normal data receiving for 1 minute in loading waiting state after operation	0B
13	RAM check result NG upon starting loading program processing	0C

*1. Occurs only in binary format specification.
*2. Occurs only in Intel HEX code specification (reservation code not actually used).

Note: No error processing (transition to permanent loop state after error code display and buzzer sounding in corresponding pattern) occurs when any of the following errors occurs in receiving the loading program header. The receive data until error occurrence is discarded and the program header receiving starts from the beginning again.

(1) Header sum check NG
(2) Disagreement between loading machine type and machine identifier in header
(3) Designation of unspecified parameter in header
(4) Designation of other than loading program as data type identifier in header
(5) Designation of no succeeding data in descriptor
(6) Designation of Intel HEX format as data type
(7) 14 seconds timeout in header receiving end waiting state

7. Cautions

(1) Execute the copy command for PC loading after sounding of the buzzer indicating the ready state for loading (for about 1 second). Since the buzzer does not sound for PC loading upon memory error detection, however, execute the copy command after checking “MEMRY ERROR” indication on the LCD after power on.

(2) Even after returning to the DOS prompt state after the end of the copy command on the PC, do not turn the FX-060VP power off until the buzzer indicating the end of MFP loading sounds.

8. Loading Processing Time

The processing time for reloading in the whole FX-060VP area (program 1, language and default) is shown below.

Sample data
- Measuring conditions
  - Host PC 800MHz-PentiumIII Windows Me
  - Device FX-060VP (Flash memory all-cleared)
  - File A FILE
- Result
  - Approx. 85 sec.

APPENDIX I INTERNET FAX OPTION

This user's guide describes how to install and configure the Internet Fax kit into a fax machine. After installing this kit, the following functions are available for use:

- Send and receive Internet fax messages.
- Network scanner

Supported systems
Supported LAN systems (topologies) are as follows.

- 10base-T Ethernet.

Supported protocols
Supported Internet fax protocols are as follows:

- TCP/IP
- SMTP
- POP3
- DNS

Note: TELNET, FTP, SNMP, MIB, HTTP (WEB) are not supported.

1. Internet fax settings

1.1 General

Before using Internet Fax, consult with the network administrator about correct network settings. There are two types of setting values for Internet Fax, which are as follows:

- Data stored on the fax machine.
- Data recorded on the network card.

To print out a list of the setting values on the fax machine, using the control panel of the fax machine, select FUNCTION, then select OT6 (REPORT PRINT) and then select 5:CONFIGURATION.

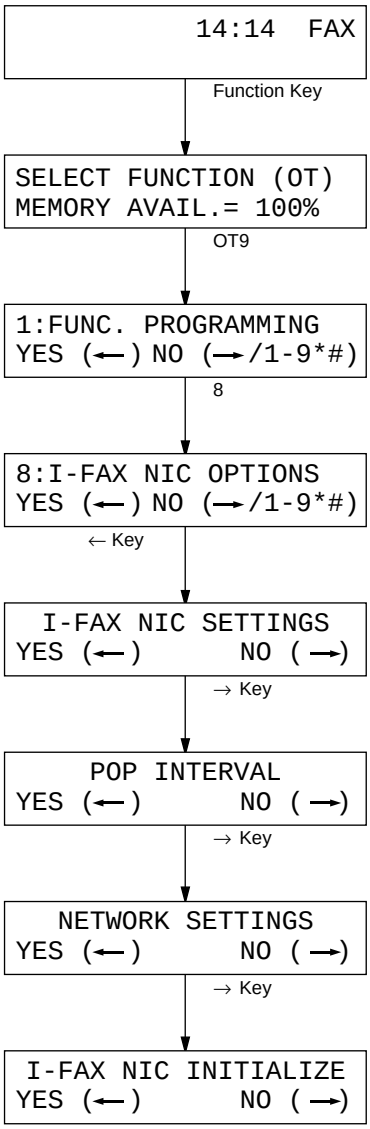
1.2 Settings

Internet Fax can be set with I-FAX NIC OPTIONS of User Programming.
Supported I-FAX NIC OPTIONS are as follows:

- I-FAX NIC SETTING
- POP INTERVAL
- NETWORK SETTINGS
- I-FAX NIC INITIALIZE

However, these operations are possible when an I-FAX NIC board is installed.

1.3 Operation overview



1.4 User/Technical functions

A: I-FAX NIC SETTINGS

1: TEXT PRINT - Whether or not to print the body text of email. If this setting is ON, the text in an e-mail message is printed out. Please note that only US-ASCII characters in the text can be printed as shown in the following table. Any characters that cannot be printed will be shown as spaces. Depending on the e-mail client used, text may not be printed or come out garbled.

Note: - Text is not generally base64 encoded and coded text is not supported (coded text is received, where the text in a coded condition is printed.)
- Two or more pieces of text are all printed.
  A line (98 hyphen characters) is added between text files (including boly copy) and a linefeed is created before and after the line. Between a header and a text file (including body copy), no line is added and one linefeed is inserted.
- All the MIME header of the attached file is not printed out.
- A blank line in the top of TEXT is eliminated in print, and be printed.
- With Microsoft Outlook, there is a setting to send an Email body by the HTML format. When the setting is the HTML format, then the body will be sent by both TEXT and HTML format. If the one received, Internet Fax will print out only the TEXT portion.
  However, if the setting is HTML format and there is an attached file, then the HTML portion will be printed out as it is.
  When the Outlook is used, please use the Text as the sending format.

	00	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
0			SP	0	@	P	‘	p								
1			!	1	A	Q	a	q								
2			"	2	B	R	b	r								
3			#	3	C	S	c	s								
4			$	4	D	T	d	t					Ä		ä	
5			%	5	E	U	e	u								
6			&	6	F	V	f	v						Ö		ö
7			'	7	G	W	g	w								
8			(	8	H	X	h	x								
9			)	9	I	Y	i	y								
A			*	:	J	Z	j	z								
B			+	;	K	[	k	{								
C			,	<	L	\	l	|						Ü		ü
D			-	=	M	]	m	}								
E			.	>	N	^	n	~								
F			/	?	O	_	o							ß		

2: HEADER PRINT - E-mail header print setting.
OFF: Do not print header
TYPE1: Print SUBJECT/FROM/TO
TYPE2: Print all header information
This setting is only valid when the TEXT Print setting is ON.

3: CODING MODE - Coding mode for TIFF file images sent by Internet Fax. Select from MH/MR/MMR. Please note that other manufacturers' Internet Fax products often support only MH. This machine supports MR and MMR modes in addition to MH. The rate of compression is MH (low); MR (medium); MMR (high).

4: EX.FINE MODE - Scan resolution of EX.FINE mode for Internet Fax: 300 dpi or 600 dpi.

5: SENDER ID (EMAIL) - Whether or not to add the sender ID to images scanned by Internet Fax. This setting will always apply when using Internet Fax, regardless of the setting for 23:SENDER ID ON/OFF. When using Internet Fax as a scanner, turn this setting OFF to prevent the sender ID data from appearing in scanned images.
Also when this setting is On, the sender ID should be added for the main body of the sending Internet FAX.

6: SEND FILE FORMAT - When an Email is sent, the setting value to decide if either of TIFF/PDF will be used to send the read manuscript is TIFF / PDF.

Note: PDF receiving is not available.

7: SEND NOTIFICATION - This is to set if the message (main body) will be attached when an Email is sent.

8: I-FAX NIC UPDATE - Firmware of the network card is updated when turns this setting into ON. Use the setting for OFF usually.
When update of firmware is necessary, obey instructions of the store which bought FAX. Update of firmware is needless usually.

B: POP INTERVAL - OFF/1MIN/5MIN/10MIN/30MIN/60MIN/DAILY

- When the DAILY setting is selected, POP TIME (Receiving Action Time) should be set. (Maximum registered number : 4 kinds)
- When the setting is DAILY but the POP TIME is not registered, then the auto POP receiving action will not done. (The action is the same to the OFF setting.)
- After POP TIME is registered, even if the setting is changed from DAILY to another one, but the POP TIME registered will not be eliminated.

If set at OFF, no automatic receptions will be carried out.

C:NETWORK SETTINGS - By selecting this user function, the following network settings can be altered.

1: IP ADDRESS - Sets the IP address.
When 0.0.0.0 is set as the IP address and the power is turn OFF and ON, the DHCP function goes ON and if a DHCP server exists, an IP address is obtained from the DHCP server.
From then on, an IP address is obtained from the DHCP server each time the power is turn ON and OFF, therefore, it is not necessary to change the IP address. When an IP address is obtained from the DHCP server, the value of the obtained IP address is displayed and an asterisk (*) is displayed at the end. If you wish to set a fixed IP address, input the IP address (numbers).
Other than the IP address, a SUBNET MASK, DEFAULT, GATEWAY, DNS Server address, SMTP Server NAME and POP Server NAME are also obtained from the DHCP server automatically. However, the items sometimes cannot be obtained depending on how the DHCP server is set. In such a case, set the address one at a time.

CAUTION: If an address cannot be obtained from the DHCP server properly, return the value of the IP address, SUBNET MASK, DEFAULT GATEWAY, POP SERVER, SMTP SERVER, and DNS SERVER address to 0.0.0.0 temporarily and turn the power OFF and ON.

2: SUBNETMASK - Sets the subnet mask.

3: DEFAULT GATEWAY - Sets the default gateway address.

4: SMTP SERVER NAME - Either the IP address or the host name of the SMTP mail server up to 64 characters may be entered here. The host name (e.g. mail.network.com) can be used if DNS has been set; otherwise, enter the IP address of the server. The address must include the "." (period) dividers (e.g. 192.168.004.123).

Note: Symbols of " and ' cannot be input.

5: POP SERVER NAME - Either the IP address or the host name of the POP mail server up to 64 characters may be entered here. The host name (e.g., mail.network.com) can be used if DNS has been set; otherwise, enter the IP address of the server. The address must include the "." (period) dividers (e.g., 202.250.111.123).

Note: Symbols of " and ' cannot be input.

6: POP USER ID - Enter the user ID registered on the POP3 server, which must be alphanumerical characters no more than 16 characters long.

Note: Symbols of " and ' cannot be input.

7: POP PASSWORD - The password registered on the POP3 server may be entered, which must be alphanumerical characters no more than 16 characters long. If a password has already been registered, it will be shown as 16 Xs to ensure that it will remain protected.

Note: - Symbols of ” and ’ cannot be input.
- 6:POP USER ID and 7:POP PASSWORD settings in the fax machine must match the POP3 user name already entered in the server.

8: DNS P. SRV ADDRESS (Domain Name Service Primary Server) - Sets the IP address of the DNS primary server. This will not be required if the server is connected directly using its IP address.

9: DNS S. SRV ADDRESS (Domain Name Service Secondary Server) - Sets the IP address of the DNS secondary server. Enter this setting only if a secondary server has been set up.

10: FAX Email Address - Enter the email address defined on this machine. Maximum length: 64 characters.

D: NIC INITIALIZE - Initialises the network card back to its original factory settings.

Note: Please check carefully before carrying out this operation.

E: Technical Function 40 - COMMAND TIME OUT

Capable of selecting from 30SEC and 5MIN (default: 30SEC).
It is not necessary to change the setting in normal times.
If a time out error frequently arises, change the setting to 5MIN.

2. Internet fax transmission

2.1 Registering addresses

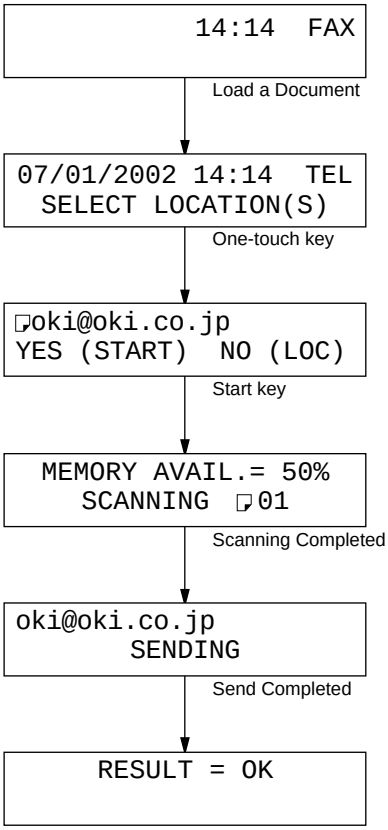
E-mail addresses up to 64 characters long can be assigned to one-touch keys 01 to 10. It is also possible to make up a group of email addresses and assign to one-touch dial numbers, but one-touch dial numbers for both email addresses and telephone numbers cannot be assigned to a single group.

Note : Numbers, small/capital letters, and symbols [! # & ( ) * + , - . / : ; = ? @ \ _ % ~] can be input with the ten-key and one-touch key.
Symbols are allocated in the "0" of the ten-key.
Capital and small letters can be selected with 1/CAP of the one-touch key.
Note that "~" is displayed as "-1" in the LCD.

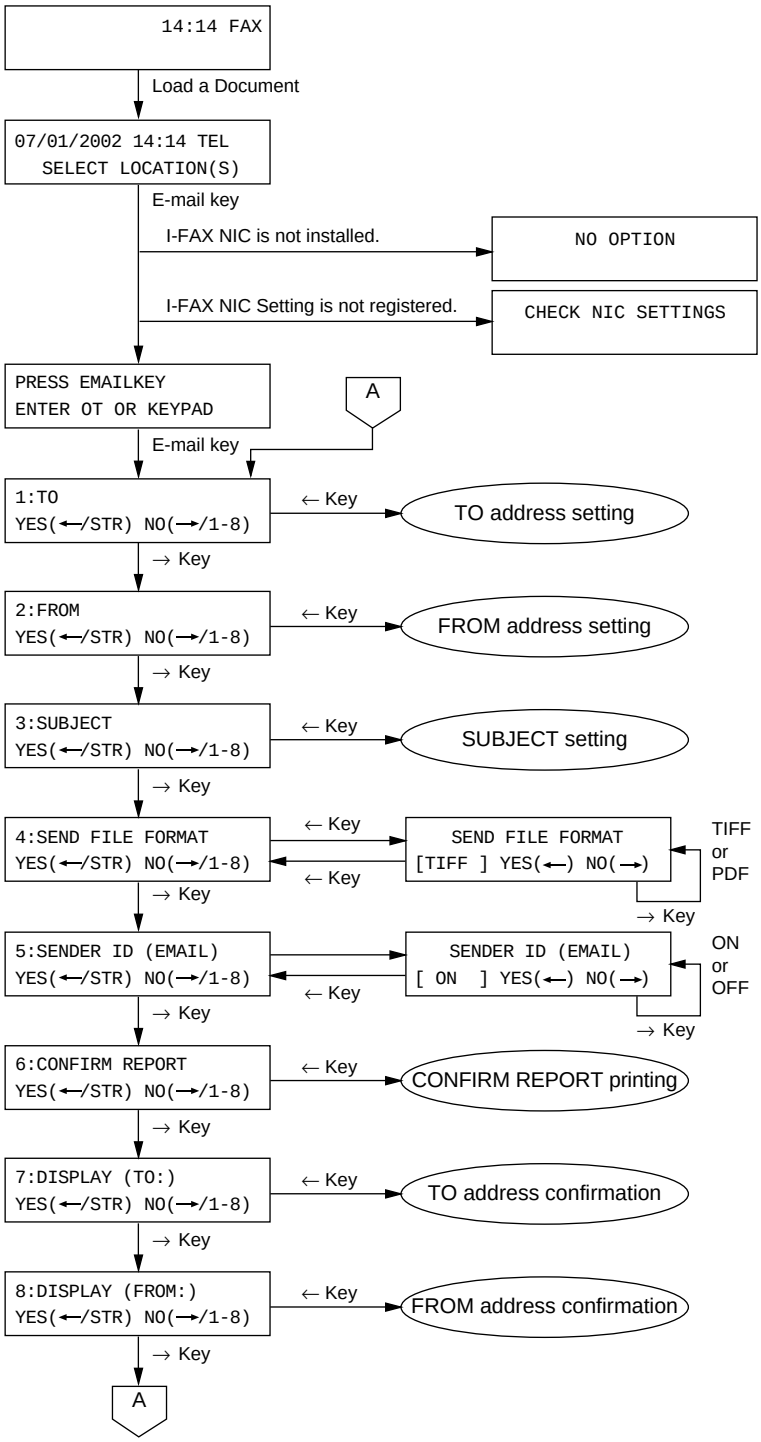
2.2 Sending a document

Place a document on the machine, press the one-touch key on which the recipient's email address is assigned and press Start. After storing the document's image data in memory, the machine will establish a server connection. When this is done, the SENDING message will be displayed. At the end of the transmission, the result will be displayed on the LCD and a buzzer will sound. A document can be sent to several e-mail addresses by pressing the one-touch keys on which they are assigned, but cannot send to recipients with telephone numbers registered on one-touch keys. If the same e-mail address is selected twice, the document will be sent only once. To specify the full e-mail addresses, select Email key to enter each e-mail addresses individually.
It is possible to set the Sender ID On/Off, to enter the Subject and to enter the From address. See the operation flow for the details. And also, with the communication parameter of the Speed Dial, it is possible to set the Sender ID On/Off, and to change the File Format between .tif and .pdf.
To stop transmission, press the Stop key. Please note that the transmission will be terminated at once without asking for confirmation.
Internet Fax data is scanned into memory before transmission. If the document is too large to fit into memory, divide it up and make two or more transmissions.

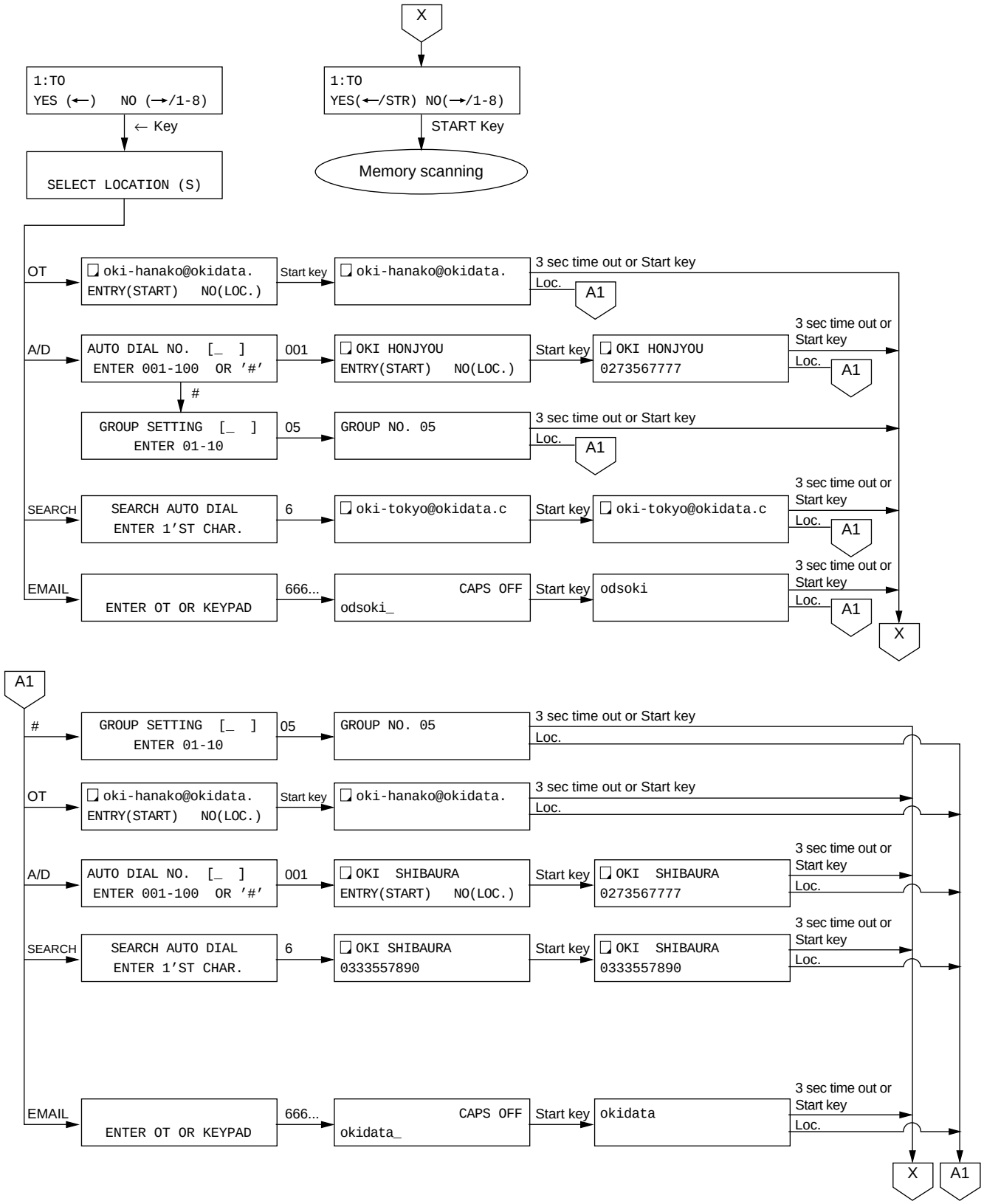
2.3 Internet fax transmission flow



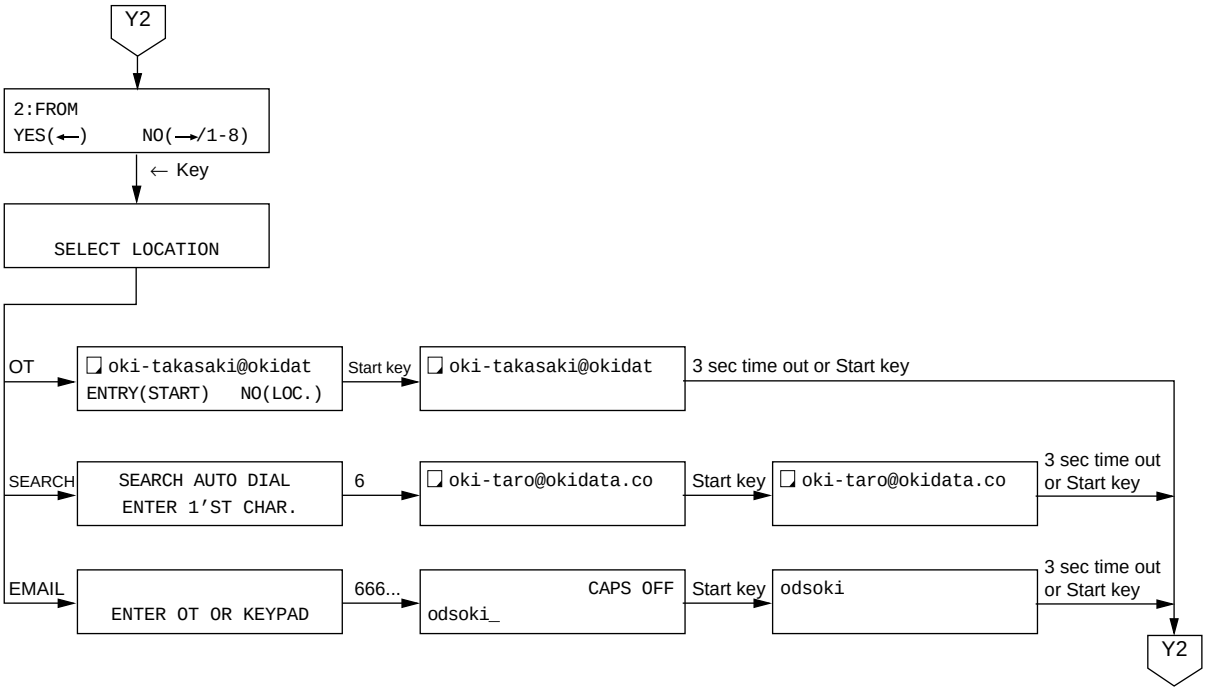
2.4 Internet fax transmission flow with E-mail key



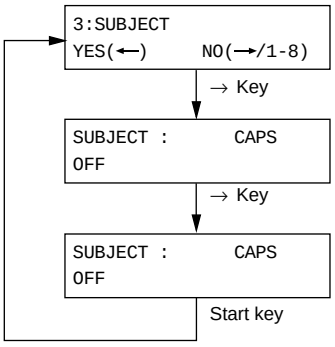
2.5 TO address setting



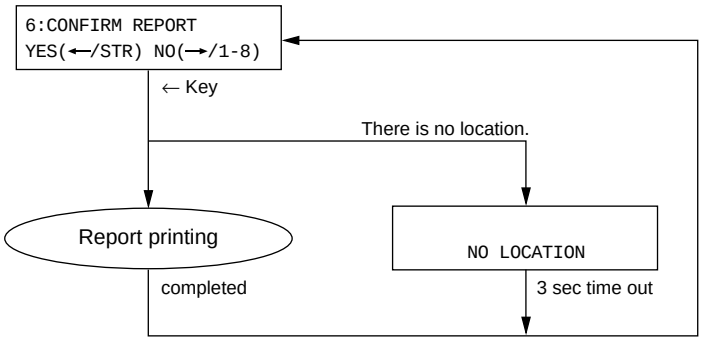
2.6 FROM address setting



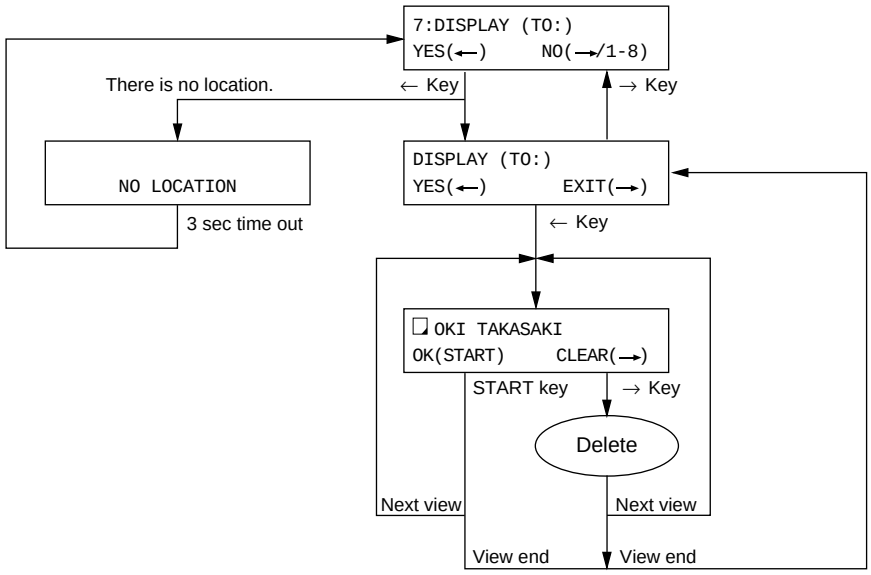
2.7 SUBJECT setting



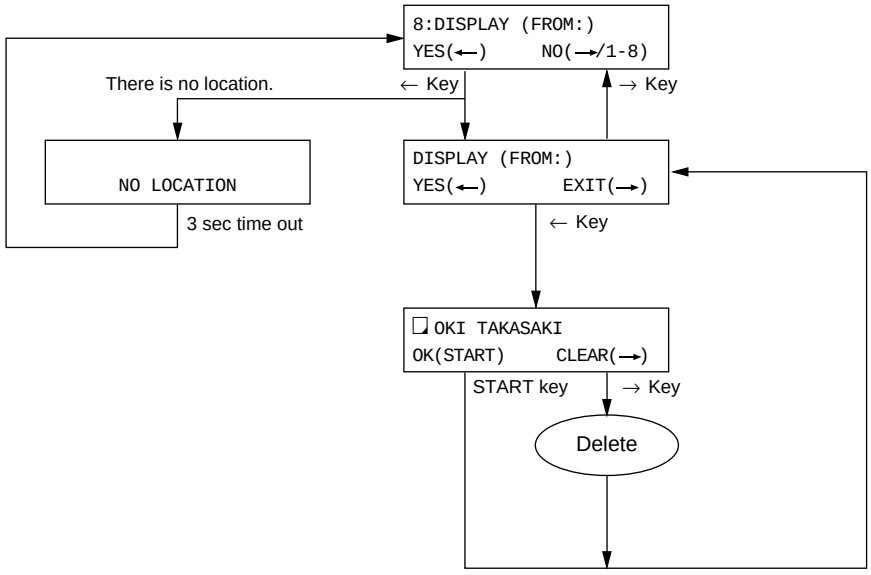
2.8 ENTRY REPORT printing



2.9 TO address confirmation



2.10 FROM address confirmation



Tiff/PDF images
Internet FAX converts scanned documents into a single TIFF or PDF format file and sends it by e-mail. This machine can transmit at a resolution of 200 ¥ 100 dpi in STD mode, 200 × 200 dpi in FINE mode, 300 × 300 dpi or 600 × 600 dpi in EX-FINE and 200 × 200 dpi in PHOTO mode. The images are compressed using one of the standard formats used on faxes: MH, MR or MMR.

Note: 600 × 600 dpi in EX-FINE and MMR settings can be changed.

Many Internet Fax products offered by other manufacturers can receive only in the STD and FINE resolutions and in MH compression mode. Please note this point if sending a document to an Internet Fax of a different make, but is not be a problem if sending to the same type of Internet Fax or to a PC. This Internet Fax attaches the fixed mail text (see the next section) as it sends a fax document.

Fixed TEXT message attached to the Sending Internet FAX
When the Internet FAX is sent, the fixed message shown below is sent. The contents differ between the case when Tiff is sent and when PDF is sent. And also, when the setting of the Sender ID (email) is On and the Sender ID is already registered, then ‘from The Internet Facsimile’ becomes ‘from [Sender ID]’.
With the SEND NOTIFICATION of the user settings, it is possible to set so that not sending this fixed message.

<When TIFF is sent>
The scanned pages attached to this e-mail have been sent from an Internet Facsimile. ¨ ([sender ID] or an Internet Facsimile.)
To view or print these pages please use the software program "Imaging" (provided with Win NT4.0/ ME/00/98/95 OSR 2) or "Windows Pictures and Fax Viewer" (provided with Windows XP).

Imaging, Windows NT4.0, Windows 95, Windows 98, Windows Me, Windows 2000, Windows Pictures and Fax Viewer, and Windows XP are registered trademarks of US Microsoft Corporation.

<When PDF is sent>
There are scanned pages attached to this e-mail which have been sent from ([Sender ID] or an Internet Facsimile.)

Subject
With using the Email key, it becomes available to enter the Subject individually. And also, when the setting of the Sender ID (email) is On and a Sender ID is registered and the Subject is not entered at the drive operation, then:
the Subject of the sending mail of the Internet FAX is sent as ‘Internet FAX Message from [Sender ID] style.

From:
With using the Email key, it is available to specify address individually into the Email Header From: address. The default is the Email address of its own machine.

Tiff viewer
In order to view Tiff files sent by this fax machine, it is necessary to have a Tiff Viewer installed on the PC. Microsoft Windows 95, 98, Me, NT4.0 and 2000 have a viewer called Imaging, through which Tiff files can be viewed.
Tiff files can be displayed with "Windows Pictures and Fax Viewer" in WindowsXP.

Note: Before printing a Tiff file from Imaging, go to OPTIONS in either the Print screen or in Properties and set the Print format to “Fit to Page”. If it is set at “Actual size”, part of the fax image may be cut off from the print out.

PDF
It is available to see the PDF being sent by the Internet FAX with Acrobat Reader 3, 4 or 5.

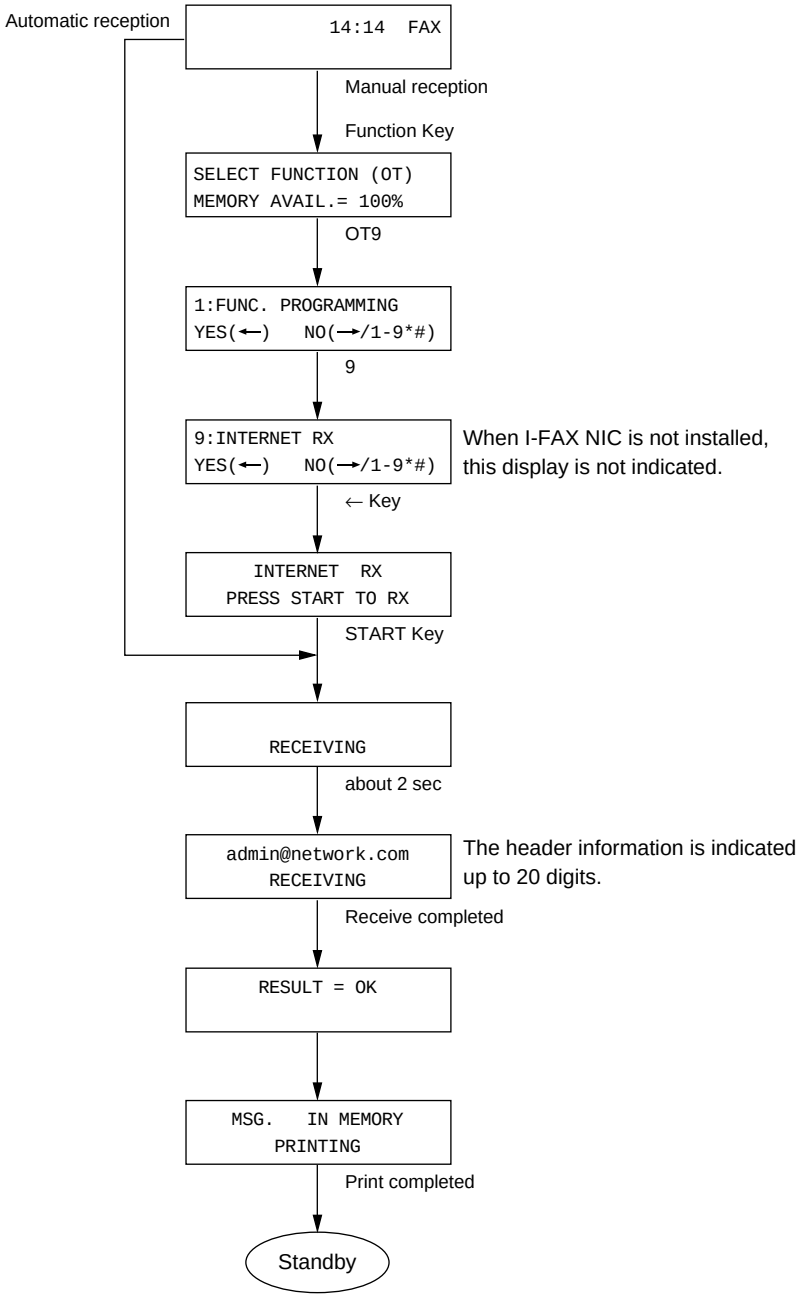
Note: PDF can not be received by the Internet Fax.

2.11 Internet fax reception

This fax machine automatically connects to the server to receive mail according to the POP INTERVAL TIME setting. If there is mail on the server, reception will start automatically. If there is more than one mail message, it will receive all the messages and print them out.
Manual reception of mail is done by selecting FUNCTION.
If automatic reception takes place and there is no mail, no record of the transaction will be made. In the case of manual reception, service code F941 will be recorded if there is no mail.

Note 1: Internet Fax receives mail in memory. Check to make sure that there is a sufficient free memory space to receive fax messages. If there is not, reception of a message may be terminated before reception is completed.

Note 2: The size of TIFF that can be received with Internet Fax is approximately half the size of the memory capacity.
Memory full may generate when receiving a large size original. In such a case, have the original divided and sent.



2.12 Receiving Tiff file

This machine receives mail messages with Tiff-format attachments in the mail server and prints out the attached files. This machine can print out Tiff files in the Simple Mode defined in ITU-T T.37. It can also receive files at the 300 × 300dpi or 200 × 400dpi resolution when expanded, and files in MR or MMR compression mode. It cannot print out files of any other Tiff-formats, and if it receives such as file, a communication error will occur and an error report will be printed.

Note: The Tiffs available to be received by the Internet FAX are the Tiff Profile-S and the followings.

a. The ones with the resolution of 200 × 400, 300 × 300.

b. Tiffs made by Imaging of Microsoft.
(However the ones other than that the encoding style is CCITT Group3(1d) FAX, that the manuscript main scan bit value is more or less than the one stated by the T.4, can not be received.)

Note: The ones available to be received by the Internet FAX are the Emails that contain Tiff or TEXT, but if the MIME format is like followings, then they can not be received.

a. The ones with the attached Tiffs that are using Encoding style other than Base64.

b. The ones with the mail TEXT encoded.

c. The ones with the Tiff Content-type other than the image/Tiff (the format stated in the Internet FAX) and the application/octet-stream (Note*a).
When a mail is sent from the mailer to the Internet FAX, please specify the encoding style of the MIME to the Base 64.

Note*a: MS Outlook2000 sends TIFF files using the format of the Content-Type : application/octet-stream. This format is used also when the TEXT from the Lotus Notes is attached to the sending mail.
Thus, it supports the Content Type of this style.
Also, in case of Content-Type : application/octet-stream, both types of attachment and inline format of the Content-disposition can be received, and it refers the file name existing there.
If the extension of the file name is “.txt” or “.tif”(“.tiff”) then each will be printed out.
Other extension files will not be printed out.

Note: In case when the TEXT format is encoded by another format like Base64 and the like, then it will not be decoded and will be printed out as it is.

2.13 Receiving text

Body text of an e-mail can be printed by turning the TEXT PRINT setting ON. E-mail from an Internet Fax often comes with added messages (text) before and after the Tiff file and this function can be used to print these messages out. The table below shows the characters that can be printed out by this machine.

	00	10	20	30	40	50	60	70	80	90	A0	B0	C0	D0	E0	F0
0			SP	0	@	P	‘	p								
1			!	1	A	Q	a	q								
2				2	B	R	b	r								
3			#	3	C	S	c	s								
4			$	4	D	T	d	t					Ä		ä	
5			%	5	E	U	e	u								
6			&	6	F	V	f	v						Ö		ö
7				7	G	W	g	w								
8			(	8	H	X	h	x								
9			)	9	I	Y	i	y								
A			*	:	J	Z	j	z								
B			+	;	K	[	k	{								
C			,	<	L	\	l	|						Ü		ü
D			-	=	M	]	m	}								
E			.	>	N	^	n	~								
F			/	?	O	_	o							ß		

To print out the information in the mail header, set TEXT PRINT to ON. This fax machine can print only plain format text that has not been encoded by Base64 etc. If e-mail messages or text-file attachments have been encoded, printouts may be garbled.

2.14 Network scanner

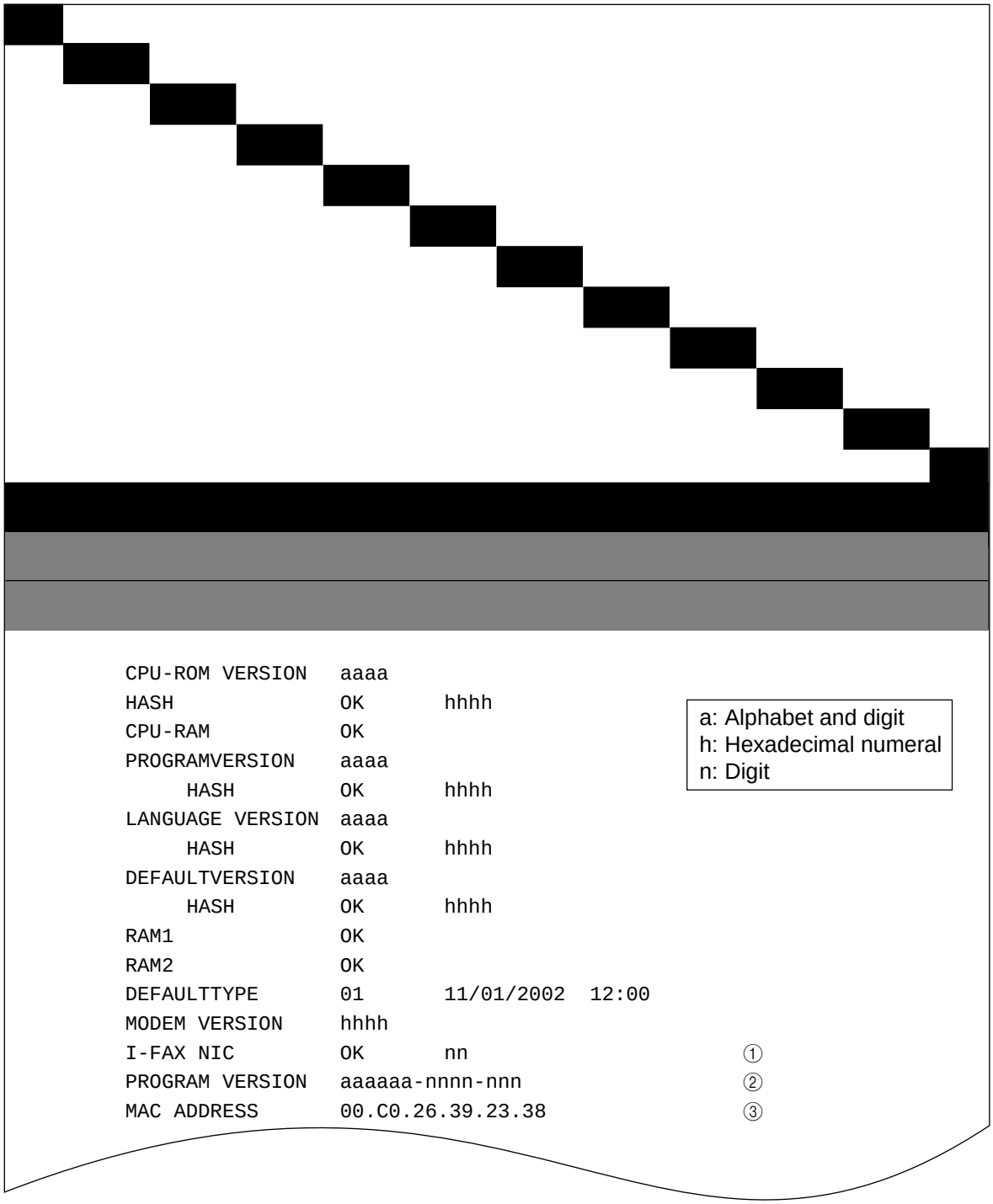
This fax machine can be used as a network scanner. Scanning is carried out as if sending an Internet Fax, but specifying the email address to which the scanned document should be sent. The recipient of the transmission, then receives the document on their PC as a TIFF file. Resolution of the TIFF file can be set to a maximum of 600 × 600 dpi in EX-FINE mode to create a high-quality scanned image file.

Note: The resolution of the scanned image can be set between 300 and 600 dpi through the user function EX.FINE MODE in I-FAX NIC SETTING.

When using this fax machine as a scanner, set 90:SENDER ID (EMAIL) to OFF so that the sender ID will not be added at the top of the document.

3. Explanation of Self-diagnosis Report on NIC

An example of a self-diagnosis report when a NIC is installed is shown below.
In this case, ① ~ ③ shown in the picture are additionally displayed.



```
CPU-ROM VERSION   aaaa
HASH              OK       hhhh
CPU-RAM           OK
PROGRAMVERSION    aaaa
     HASH         OK       hhhh
LANGUAGE VERSION  aaaa
     HASH         OK       hhhh
DEFAULTVERSION    aaaa
     HASH         OK       hhhh
RAM1              OK
RAM2              OK
DEFAULTTYPE       01       11/01/2002  12:00
MODEM VERSION     hhhh
I-FAX NIC         OK       nn                    ①
PROGRAM VERSION   aaaaaa-nnnn-nnn                ②
MAC ADDRESS       00.C0.26.39.23.38              ③
```

a: Alphabet and digit
h: Hexadecimal numeral
n: Digit

① "OK" is displayed for normal NIC operation; "NG" and factors are displayed in a 2-digit numeral for abnormal NIC operation.
01: Failure of I/F operation check
02: Failure of NIC operation check

② The NIC version is displayed.
aaaaaa-nnnn-nnn
The first 6-digit alphabet/numeral "aaaaaa" indicates the NIC firmware version.
The second 4-digit numeral "nnnn" indicates the NIC boot block version.
The last 3-digit numeral "nnn" indicates the NIC hardware version (561 or 661).

③ The MAC address of a NIC is displayed.

4. NIC Firmware Update Methods

Note: Attention Generally updating of a NIC firmware is not necessary, but it shall be executed whenever necessity arises to cope with problems and such. In that case, be sure to update the version with full understanding of this manual.

1. General Outlines

   A NIC firmware can be updated by receiving e-mail.

   To be specific, when a firmware is sent to a FX-060VP by e-mail, the firmware is automatically updated as the FX-060VP is receiving POP.

2. Procedures

   ① Provide a NIC firmware file.

   Configuration of a name of a NIC firmware file is as follows.

   Example) I5L702P01.imz
   “I”: Fixed letter
   Following numeral: NIC hardware version (5 or 6)
   “L”: Fixed letter
   “702P01”: Firmware version

   There are two types in the NIC, and they are distinguished by the second first character.

   Numeral “5”: Hereinafter referred to as Type A.

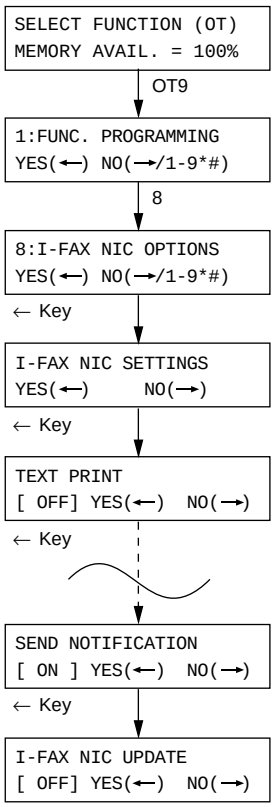
   Numeral “6”: Hereinafter referred to as Type B.

   I5L702P01.imz → Type A
   I6L702P01.imz → Type B

   For updating a NIC firmware, output a self-diagnosis report by a FX-060VP used for updating. Then check the hardware version indicated in a 3-digit numeral and is next to PROGRAM VERSION in the report. The numeral 561 is Type A, and the numeral 661 is Type B. Be note that only a firmware, whose hardware version type is the same to that of the device, can be updated.

   ② In user-selectable settings, select YES of I-FAX NIC SETTINGS, follow procedures and change the setting to ON of I-FAX NIC UPDATE. (See Operation Flowchart.)

Note: This setting is automatically reset to OFF at the completion of firmware updating. Be sure to leave the setting OFF always.



Operation Flowchart

③ Send the provided firmware file to the FX-060VP by e-mail.

For sending the firmware file, enter the characters, which are specified later on, into Subject and text, and then attach the firmware file to e-mail and send it via mail clients, such as Netscape Messenger, Outlook and Outlook Express.

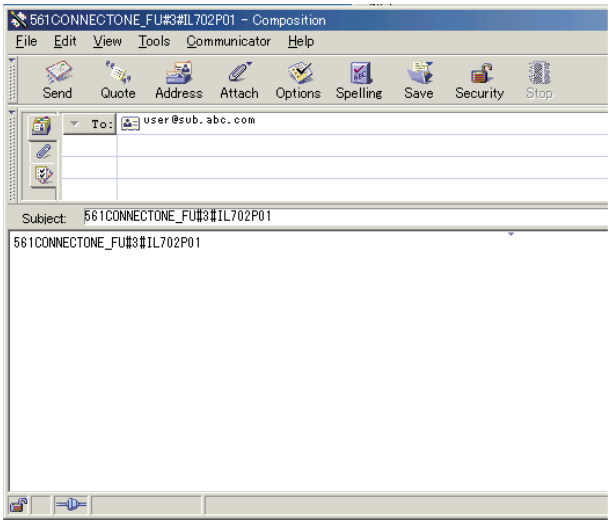
Caution: Among mail clients, proper functioning of Netscape Messenger, Outlook and Outlook Express are confirmed, but those of other mail clients are out of guarantee. When sending e-mail, be sure to select TEXT format from sending formats. Keep in mind that the default set sending format of Outlook and others is HTML format.

[Type A]

In Subject and text, enter
561CONNECTONE_FU#3#I<L and following characters of the firmware file name>
and then send it.

For example, if the file name is I5L702P01.imz, enter
561CONNECTONE_FU#3#IL702P01.

An example with Netscape Communication 4.73 is shown in Plate 1.



[Type B]

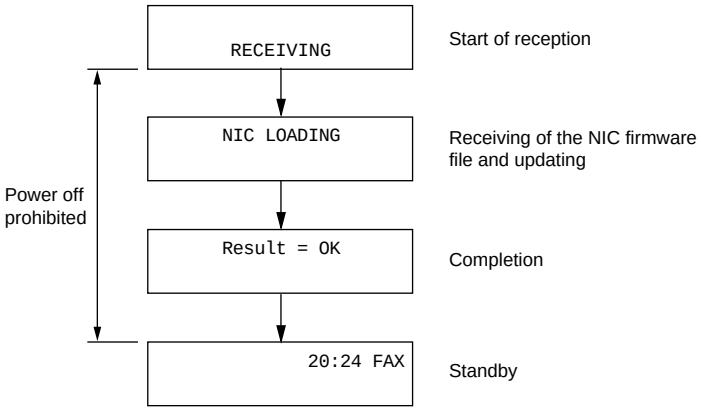
In Subject and text, enter
661CONNECTONE_FU#3#I<L and following characters of the firmware file name>
and then send it.

For example, if the file name is I5L702P01.imz, enter
661CONNECTONE_FU#3#IL702P01.

④ Receive e-mail with the FX-060VP.

Following indications are displayed as the FX-060VP receives the NIC firmware file. When the update of the firmware completes, a result appears.

It takes about 4 minutes for updating.



Warning: Never turn off the power until the result is displayed. Otherwise, the NIC firmware file may crash and become incapable to boot up.

⑤ Print out a self-diagnosis report and check the version of the NIC firmware.

⑥ Delete “the e-mail attached with the NIC firmware file is attached” from the server Mailbox of the FX-060VP.

Caution: The e-mail attached with the NIC firmware file” remains in the mail server after it is received in the FX-046VP. Be sure to delete “the e-mail attached with NIC firmware file”, which remains in Mailbox of the FX-060VP, using mail clients, such as Netscape Messenger, Outlook and Outlook Express.

3. Important

① Concerning errors at the time of e-mail receiving, an improper setting of POP server or such is a probable cause. Thus, confirm in the service code and check the setting etc. again.

② In the case that a NIC firmware sent to a FX-060VP is not received, a firmware is not updated or an error arises, following factors may be the cause.

a) The user-selected I-FAX NIC UPDATE is OFF.
→ Change it to ON.

b) There is a mistake in characters that were entered in Subject and text when sending a NIC firmware file.
→ Check whether the characters were properly entered.

c) Non-recommended mail clients are used.
→ As some mail clients automatically add characters into text, sometimes receiving can not be executed properly. For this reason, use Netscape Messenger, Outlook or Outlook Express recommended.

d) The selected sending format of male clients is HTML format.
→ Select TEXT format.

e) The type of the updated firmware is different from that of current firmware of FX-060VP.
→ The same type firmware is essential.

f) If an old firmware remains in Mailbox, be sure to delete it before updating a firmware.

5. Troubleshooting

5.1 Service codes

If a communication error occurs, check the service code shown on the Activity Report.

SMTP communications
The service code for a SMTP communication is prefixed with the letter E.

- 0000: Normal shutdown
- 9080: Press stop key
- E058: Failed in SMTP connection
- E074: Cable not connected
- E081: DNS cannot solve SMTP server name
- E082: No response from SMTP server
- E083: Error generated in SMTP command sequence
- E108: Transmission attempted when destination was not set
- E109: Transmission attempted when mail address of own device not set
- E110: Transmission attempted when SMTP server not set
- E401: Communication was attempted when the IP address of the own device was not set.
- E942: Command timeout
- E990: Other error
- EF00: Option board I/F error

Note: For service codes E001 and E002, the number of pages in the report will be left blank.

POP3 communications:
On this fax machine, the codes will be prefixed with the letter F.

- 0000: Normal shutdown
- F001: Normal shutdown (only text received)
- F002: Normal shutdown (only text received but cannot print)
- F059: Failed in POP connection
- F074: Cable not connected
- F076: DNS cannot solve POP server name
- F077: No response from POP server
- F078: Incorrect POP user name/password
- F079: Error generated in POP command sequence
- F105: Reception attempted when POP server was not set
- F106: Reception attempted when POP user name was not set
- F113: Failed in updating NIC firmware
- F401: IP address not set
- F931: Unreceivable e-mail (TIFF NG)
- F932: Unreceivable e-mail (other than TIFF NG)
- F940: Memory full
- F941: When mail does not exist in server upon manual reception
- F942: Command timeout
- F990: Other error
- FF00: Option board I/F error

Note: For service codes F001 and F002, the number of pages in the report will be left blank.

5.2 Transmission troubleshooting

Transmission fails; a communication error occurs.
- Are the IP ADDRESS, SubNet Mask and Default Gateway settings correct?
- Has the SMTP server been configured correctly?
- If using DNS, is the DNS server address correct?
- Check to make sure that the server is not down.
- If DNS is ON, some servers may cause an error.

When one-touch key is pressed with an email address assigned, a warning message appears on the LCD.
- Has an e-mail address been entered that has been assigned on this machine?

LCD shows message “OPTION BOARD ERROR”.
- A network card I/F error has occurred - turn the power off and on again to recover.

The Tiff file sent cannot be printed out on the receiver.
- Is the file sent at EX-FINE resolution or in coding mode other than MH? T.37 simple mode Internet Fax products support only the STD and FINE resolution settings and MH coding mode.

It seems that the Sender ID is added to the subject when transmitted?
- In case the Sender ID (Email) setting is ON, automatically the Sender ID set in the Internet FAX is add to the Subject and Message Body.

I want to send it by PDF.
- The selection of transmission file format either Tiff or PDF is available. Also it is available to specify with Email key by every transmission. Also, it is available to specify with the speed dial communication parameter.

I don’t want to send the message body sent by the Internet FAX.
- It is available to set it with the user setting so the message body (fixed) sent by the Internet FAX will not be sent.

I want to send by address of CC:.
- It is not available to specify the sending address as CC.

5.3 Reception troubleshooting

Reception fails; a communication error occurs.
- Are the IP ADDRESS, SubNetMask and Default Gateway settings correct?
- Has the POP server been configured correctly?
- If using DNS, is the DNS server address correct?
- Is the USER ID correct as registered on the POP server?
- Is the password correct as registered on the POP server?

Reception does not start.
- Has the POP interval been set at OFF?
- Is there a sufficient free memory space? Images have to be first stored in memory and cannot be received if there is not enough space.

When receiving data manually, a warning message appears on the LCD.
- Is the POP server and USER ID registered?

The LCD shows message OPTION BOARD ERROR.
- A network card I/F error has occurred - turn the power off and on again to recover.

A communication error occurs during reception, and a report is printed out.
- The received file is not of a format supported by this machine.

Data is sent from an email client on a PC to the InternetFAX, but the reception has failed.

- Is Tiff format used supported by this Internet Fax?
- If only a text has been sent, it will not be printed out unless the TEXT PRINT setting is ON.
- Some e-mail clients send e-mail using unusual formats which this fax machine cannot receive.

The fax machine prints out a large number of meaningless characters.

- It may be printing out Base64-encoded data that the Internet FAX can not decode. If this occurs frequently, change the TEXT PRINT setting to OFF.

Communication errors occur, and service code F078 is given each time.

- The POP server password or user ID may be wrong, causing the server to return authentication errors.

Can PDF files be received?

- PDF files can be sent but it can not be received.

APPENDIX J FLATBED SCANNER (Avision Inc.:DS310F) TROUBLESHOOTING

1. CONNECTION

DS310F made by Avision Inc. is the only flatbed scanner that can be connected to FX-060VP.

As for the software CD attached with the DS310F and DS310F main unit, please refer to the manual for DS310F or contact Technical Support in Avision Inc. for details.

Technical Support

AVISION INC.
No.20, Creation Rd. I, Science-Based
Industrial Park, Hsinchu 300,
Taiwan, R.O.C.
TEL: +886 (3) 578-2388
FAX: +886 (3) 577-7017
Web Site: http://www.avision.com.tw
E-mail: service@avision.com.tw

AVISION and DS310F are registered trademarks of AVISION INC.

1.1 An error occurs when the power for DS310F is turned ON.

> Is the status of the lock switch for used during transport locked?

Disconnect the power cable from the power jack to turn the power OFF, then set the lock switch at the bottom of the DS310F main unit to “Unlock”. Refer to the manual for DS310F regarding the position and how to set the lock switch.

> Is DS310F connected to the computer properly?

Check if the printer cable is connected to the port marked “TO PRINTER” on the back of DS310F and the centro port of FX-060VP.

> Is the power of FX-060VP turned ON?

Turn the power of FX-060VP ON.
An error will appear on the DS310F LCD if the power of the printer connected to the “TO PRINTER” port for DS310F is turned OFF or if the printer cannot receive due to an alarm, etc.

1.2 FX-060VP does not function even when the “Copy” button on DS310F is pressed.

> Are connections accurate?

Connect securely to FX-060VP with a printer cable.
→ Refer to “1.1 An error occurs when the power for DS310F is turned ON”.

> Is FX-060VP set properly?

Confirm that user function No. 33 “OPTION I/F MODE” is set to SCN. or NET. Functions connected with DS310F are disabled if connection is made to MFPI, therefore, reconnect to SCN. or NET. Furthermore, if the setting is changed, turn OFF the power of FX-060VP once, and then turn it ON again.

> Is DS310F set properly?

Copying is disabled on the FX-060VP side if DS310F is set as in the table below, therefore, change it to a valid setting.

Item	Invalid Setting	Valid Setting
Printer Select	PJL/PCL PJL/PCL DUPLEX ESC/PAGE ESC/PAGE-C	PCL Emulation
Normal/Quality	Quality	Normal

Refer to the DS310F manual for details on each item.

If “Normal/Quality” is set to “Quality”, [DATA ERROR] will appear in the LCD on the FX-060VP side and image data received from DS310F will be discarded.
Furthermore, if “Printer Select” is set to an item other than “PCL Emulation”, operation will not be guaranteed with FX-060VP.
To be specific, the received image data from DS310F may not be printed or come out garbled.

> Is an error generated in FX-060VP?

If the ALARM LED on FX-060VP is illuminating, release the error according to the “7.3 Alarm LED On” section in the Maintenance Manual.

> Is FX-060VP connected to the PC?

Refer to Clause 4.

2. FLATBED COPY FUNCTIONS

2.1 Nothing is printed as a result of copying or only a few dots are printed.

> Is an original set in DS310F?

Set an original if none is set.
The rear side of the document cover is read when reading is attempted without setting an original, therefore, the result will come out in white.

> Is the side of the original you wish to print faced down?

Set the original so that the side you wish to print is facing down.

> Is the “Lighter or Darker” setting for DS310F set properly?

Press the “Lighter/Darker” button and increase the darkness level.

2.2 The copied image is dark, or the background color or the rear side of the original is printed.

> Is the “Lighter or Darker” setting for DS310F set properly?

Press the “Lighter/Darker” button and decrease the darkness level.

> Is the “Background Remove” setting on DS310F set to OFF?

If there is a color background in the original, press the “Background Remove” button and change the setting to ON. For details, refer to the DS310F manual.

> Is the original so light that the rear side can be seen through?

When copying a light original, the image on the rear side or the stacked page may appear. This can be prevented by setting a black paper or board on top of the original.

2.3 The copied image is larger or smaller than the original.

> Is “enlargement/reduction” set to 100% in DS310F?

Set to 100% by pressing the “Reduce/Enlarge” button.
For details, refer to the DS310F manual.

2.4 The copied image is shrunk or only half of the image is printed in the vertical direction.

> Is the paper size set in DS310F the same as the size set in FX-060VP?

If the image data received from DS310F does not fit in one page, FX-060VP reduces the image in the vertical direction to fit the image in one page. Therefore, the setting for “Paper Size” in DS310F must match with user function No.13 “PAPER SIZE” in FX-060VP.
A4, Letter, and Legal are the three sizes that can be selected in DS310F. The length of Legal is 14 inches.

> Is “HALF SIZE SCAN” in FX-060VP set to ON?

If user function No. 38 “HALF SIZE SCAN” is set to ON, FX-060VP prints only the upper half section of the image received from DS310F and the lower half is not printed.
Therefore, change this setting to OFF.

2.5 The copied image is deviated, skewed, or certain portions are not printed.

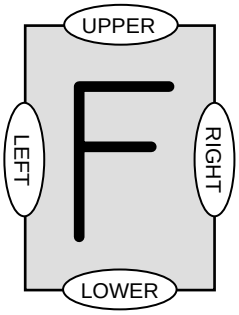
> Is the guide-paper position that sets the recording paper in FX-060VP accurate?

Check that the position of the guide-paper in the tray is adjusted to the recording paper size set in user function No. 13 “PAPER SIZE” for FX-060VP. Also confirm that there is no bent recording paper set in the tray.

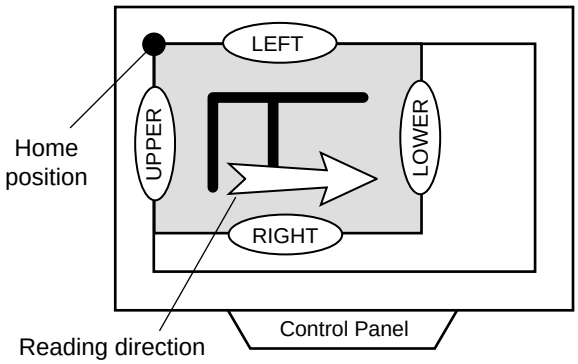
> Is the original in DS310F set properly?

The original must be set straight when viewed from the front of DS310F, set against the deep left edge of the document glass.

Original



Position to set an original on the Flatbed Scanner



> Is the original set in DS310F skewed?

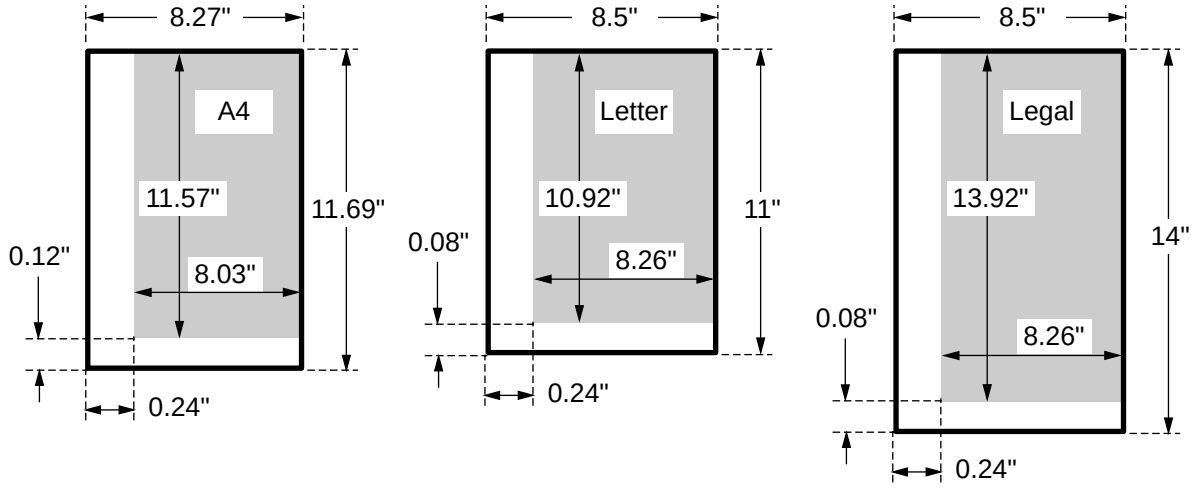
The read range in DS310F will become narrow if the original is skewed, therefore, set it straight. Furthermore, close the cover for DS310F slowly so that the original does not move.

> There are sections that cannot be captured by DS310F.

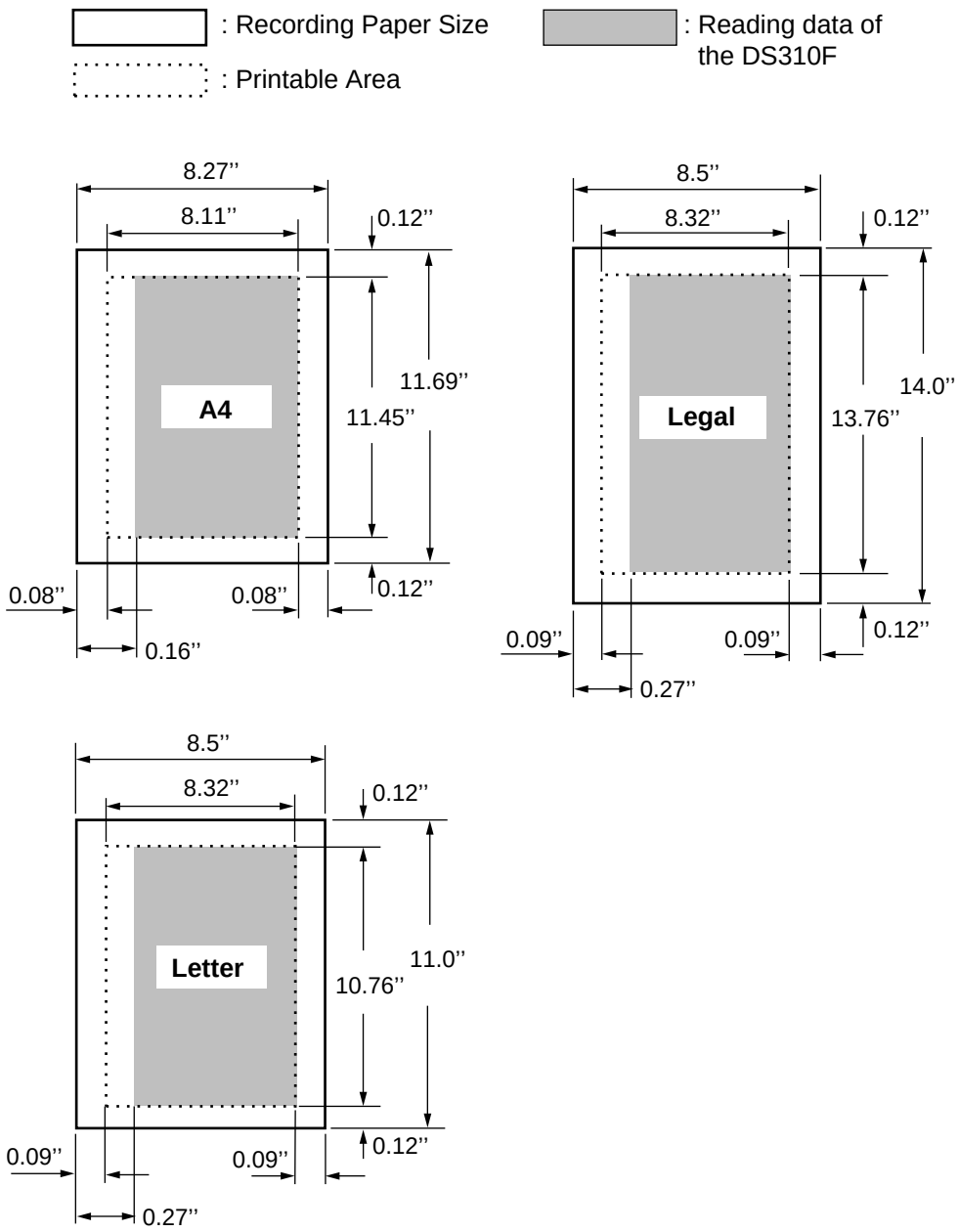
The following ranges cannot be read with DS310F depending on the size of the original. (DS310F specification)

Scale	Edge	Original size you select in DS310F		
		A4	Letter	Legal
100%	Upper	Possible from the upper.	Possible from the upper.	Possible from the upper.
	Lower	Approx. 0.12" (3mm) from the lower is not read.	Approx. 0.08" (2mm) from the lower is not read.	Approx. 0.08" (2mm) from the lower is not read.
	Left	Approx. 0.24" (6mm) from the left edge is not read.	Approx. 0.24" (6mm) from the left edge is not read.	Approx. 0.24" (6mm) from the left edge is not read.
	Right	Possible to the right edge.	Possible to the right edge.	Possible to the right edge.

Reading area (inch)



The printable areas in FLATBED COPY mode is the following.



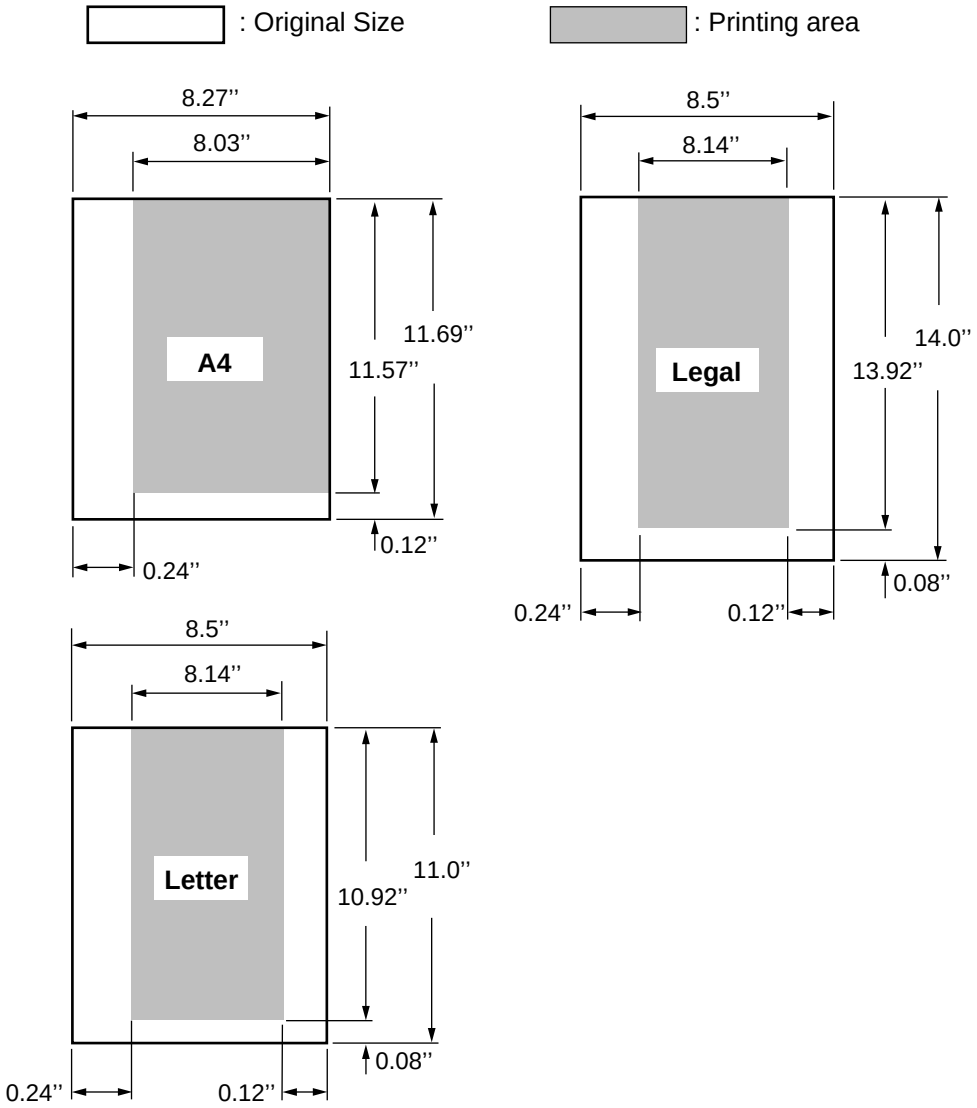
Because DS310F does not read 0.24" (6mm) from the left edge of the original, it adjusts print position by providing margin at the left edge of recording paper with reference to A4 size.

In sub-scan direction, the image is variably scaled down so that all the ranges that DS310F reads can fit the printable area of the recording paper.

The following table shows DS310F's reading original sizes and scales with recording paper in FX-060VP.

Recording paper size you select in FX-060VP	Original size you select in DS310F		
	A4	Letter	Legal
A4	99%	Almost 100%	83%
Letter	93%	99%	77%
Legal (13)	Almost 100%	Almost 100%	92%
Legal (14)	Almost 100%	Almost 100%	99%

As a result, FLATBED COPY actually prints the following ranges of the actual reading original.



When DS310F's reading results in stretched image in main scan direction, the equivalent right edge of the read original is not printed because the print start position in the main scan direction is fixed.

The following table shows the missing area at the original right edge for each image stretch rate.

Image stretch rate	Letter original width : Image stretch size	Letter original right edge : missing area
0.5%	0.042" (1.079mm)	0.363" (9.21mm)
1%	0.085" (2.159mm)	0.405" (10.29mm)
1.5%	0.128" (3.239mm)	0.448" (11.37mm)
2%	0.17" (4.318mm)	0.49" (12.45mm)

In case of FLATBED TX mode, all the ranges read by DS310F are transmitted.

Printable area of a remote machine depends on the specification of the remote machine.

If you wish to read the original from the left edge, set the original by leaving a space of 0.24" (6mm) or more on the top section of the document glass. However, an area worth the same spaced will be left out from the right side of the original.
Furthermore, by pressing the “Reduce/Enlarge” button on DS310F and setting the value to below 100%, the size of the printed image will be reduced, however, the read range may broaden.

2.6 To increase the quality of a printed image.

> Does the focus setting for DS310F match the image type of the original?

The quality of a printed image may improve by adjusting the “Auto/Text/Photo” setting to the nature of the original.
For details, refer to the DS310F manual.

> Is the “Lighter/Darker” setting in DS310F appropriate?

Press the “Lighter/Darker” button and adjust the level.

> The resolution for printing with FX-060VP is fixed at 300DPI.

The resolution of an image data received from DS310F is fixed at 300DPIx300DPI.
Copying cannot be performed at a different resolution.

2.7 “copy count”.

> “Copy count” can be set in a range of 1 to 99 pages with DS310F.

With FX-060VP, the same number of pages set in the “copy count” setting in DS310F can be printed for the same original. The currently printed page number will be indicated on the top line of the FX-060VP LCD.
Even if paper-end or paper jam occurs while printing, the remaining pages will be printed after recovery.
For details on the “copy count” setting for DS310F, refer to the DS310F manual.

2.8 The “Stop” key on FX-060VP was pressed to discontinue the copy operation while reading from DS310F, however, the indication remained at “STOPPED”.

> Is the read operation being continued for the one original with DS310F?

When the “Stop” key is pressed while receiving data from DS310F, FX-060VP continues to display “STOPPED” until image data for one original is received.

Therefore, if DS310F continues to read, the indication will change to standby when reading is complete.

However, if reading is discontinued, for example, when the DS310F power is turned OFF, image data for one original will not be sent to FX-060VP, and the display will change to standby when a specified time exceeds from the time the image data was disconnected. The time can be set with user function No. 35 “PRINT JOB T.O.” and can be selected from “5SEC”, “30SEC”, or “5MIN”.

2.9 Meaningless characters or symbols are printed. (Characters are garbled.)

> Is the printer cable disconnected?

Confirm that a printer cable is connected securely to FX-060VP and DS310F.
→ Refer to “1.1 An error occurs when the power for DS310F is turned ON”.

> Is print being performed from the PC?

When copy is being performed while printing from the PC by connecting FX-060VP to the PC via DS310F, print data from the PC and reading image data from DS310F will be mixed, therefore, garbled characters will be printed.
Press the “Copy” button on DS310F after data has been printed from the PC.
→ Refer to “4. Downloading Print”.

> Did you turn OFF the power of the DS310F during reading? Or, did you stop a copy by pressing the "STOP" key on FX-060VP during reading?

Read image data from DS310F remains in a half-finished status.
Turn ON the power of DS310F and FX-060VP again.

2.10 The set content returns to its prior status even when changing the setting with DS310F.

> The following restrictions exist for operating DS310F.

The contents for “Printer Select” and “Paper Size” settings are saved even when the power of DS310F is turned OFF, however, other settings are returned to their initial status in the following conditions.

- When the “All Clear” button is pressed.
- When the power is turned OFF.
- When approx. one minute exceeds after ceasing operating while changing the setting. → Returns to a standby status.

The initial values are listed below.

Item	Initial Value
Copy Count	1
Auto/Text/Photo	Photo
Normal/Quality	Normal
Lighter/Darker	The fourth level
Reduce/Enlarge	Ratio:100%
Background Remove	on

3. FLATBED FAX TX FUNCTIONS

3.1 The “FAX TX” function cannot be selected with FX-060VP

The “FLATBED FAX TX” function must be selected in FX-060VP in advance in order to apply the function, however, check the following items if the function cannot be selected.

> Is there a problem with the FX-060VP setting?

Check if user function No. 33 “OPTION I/F MODE” is set to SCN. or NET.
→ Refer to “1.2 FX-060VP does not function even when the “Copy” button on DS310F is pressed”.

If technical function No. 35 “LEASED LINE” is set to ON, the “FAX TX” function cannot be selected as the destination for transmission does not have to be selected.
Change this setting to OFF.

Furthermore, if technical function No. 26 “RESTRICT ACCESS” is set to ON, a password must be input in order to release operational restrictions. The “FAX TX” function can be selected as usually after the restrictions are released by inputting a password.
However, a password cannot be input while a different operation such as data reception or auto report print is being performed, thus, operational restrictions cannot be released. Therefore, release operational restrictions after the operation that is currently running ends, then select the “FAX TX” function.

> Is an original set in the ADF of FX-060VP?

The “FAX TX” function cannot be selected if an original is set in the FX-060VP ADF. Select the destination for transmission after removing the original in the ADF.

> Is print being performed from the PC?

The “FAX TX” function cannot be selected while printing from the PC by connecting FX-060VP to the PC via DS310F. Operate FX-060VP after the print operation from the PC is finished.
→ Refer to “4. Download Print”.

> Is an error generated in FX-060VP?

If the Alarm LED in FX-060VP is illuminating, release the error according to the contents in “7.3 Alarm LED On” in the Maintenance Manual.

3.2 The “FAX TX” operation does not start.

>Is the status standing by for the next original?

As more than one original are sent in one batch with FX-060VP, an operation for moving to the “FAX TX” operation is required when the final original is read.
The “FAX TX” operation will begin by pressing the “Start” key with “FLATBED FAX TX” displayed in the top line and “PRESS START” displayed in the bottom line of the FX-060VP LCD.
If the indications in the LCD are the same, the “FAX TX” operation will begin automatically even without pressing the “Start” key when the time for standby set in user function No. 37 “FLATBED TX T.O.” is exceeded.
“OFF”, “30SEC”, or “1MIN” can be selected for “FLATBED TX T.O.”. When “OFF” is selected, no time will be displayed for standby and the “FAX TX” operation will start right after receiving image data for one page from DS310F.

> Was a certain length of time required for setting an original in DS310F after selecting the “FAX TX” function?

FX-060VP stands by to receive reading image data from DS310F by selecting the “FAX TX” function, however, when one minute exceeds in the same state, it stands by after releasing the selecting for the “FAX TX” function.
For this reason, press the “Copy” button on DS310F and start reading within one minute after selecting the “FAX TX” function.

> Is an error generated in FX-060VP?

There is a problem with the DS310F setting if “DATA ERROR” is displayed in the bottom line in the FX-060VP LCD.
→ Refer to “1.2 FX-060VP does not function even when the “Copy” button on DS310F is pressed”.

If the ALARM LED on FX-060VP is illuminating, release the error according to the “7.3 Alarm LED On” section in the Maintenance Manual.

3.3 The resolution cannot be changed.

> The “YES” key of FX-060VP that indicates resolution is invalid.

The “Yes” key (PHOTO/EX-FINE/FINE/STD) that indicates the resolution is invalid while “FAX TX” is functioning. Therefore, the resolution LED is not displayed.
The resolution for when “FAX TX” is functioning can be changed with user function No. 36 “FLATBED TX Mode” setting. When “FINE” is selected, the resolution is set to 300 x 300dpi, and the resolution is set to 8 x 7.7 line/mm when “STD” is selected.
However, the resolution may be changed at 8x3.85 line/mm if the connected device does not comply with the resolution.

3.4 The density cannot be changed.

> The “No” key of FX-060VP that indicates the density is invalid.

The “No” key (LIGHT/NORMAL/DARK) that indicates the density level is invalid while “FAX TX” is functioning. Therefore, the density LED is not displayed.
Adjust the density when “FAX TX” is functioning by pressing the “Lighter/Darker” button on DS310F.

3.5 To shorten the time for communication.

> Is user function No. 36 “FLATBED TX MODE” in FX-060VP set to “FINE”?

Transmission is made by decreasing the resolution when user function No. 36 “FLATBED TX MODE” in FX-060VP is set to “STD”. This decreases the amount of transmitted data by approximately two-fifths, thus shortening communication time. The quality of the transmitted image, however, will drop.

> Is user function No. 38 “HALF SIZE SCAN” in FX-060VP set to “OFF”?

When the original set in DS310F is smaller than the original size set for “Paper Size”, or if you wish to send only the top section of an original, set user function No. 38 “HALF SIZE SCAN” in FX-060VP to ON so that only the top section read and transmitted.
This decreases the amount of transmitted data by a maximum of approximately one-half, thus shortening communication time.

3.6 Can transmission be made right after an original is read in DS310F?

> Is user function No. 37 “FLATBED FX T.O.” in FX-060VP set to “OFF”?

If only one original is constantly subject to FAX TX, the “FAX TX” operation can be started right after receiving image data for one page from DS310F by setting user function No. 37 “FLATBED FX T.O.” in FX-060VP to “OFF”
However, two or more originals cannot be sent in one transmission when this function is set to OFF.

3.7 The “copy count” function is not applied in the “FAX TX” function.

> The “copy count” function set in DS310F is neglected while “FAX TX” is functioning.

As two or more same originals do not have to be sent to a same destination with the “FAX TX” function, “copy count” will always be considered as one page even when set to two pages or more.

3.8 Image quality when using “FAX TX”.

> Refer to the following sections.

2.1 Nothing is printed as a result of copying or only a few dots are printed.
2.2 The copied image is dark, or the background color or the rear side of the original is printed.
2.3 The copied image is larger or smaller than the original.
2.4 The copied image is shrunk or only half of the image is printed in the vertical direction.
2.5 The copied image is deviated, skewed, or certain portions are not printed.
2.6 To increase the quality of a printed image.
3.3 The resolution cannot be changed.

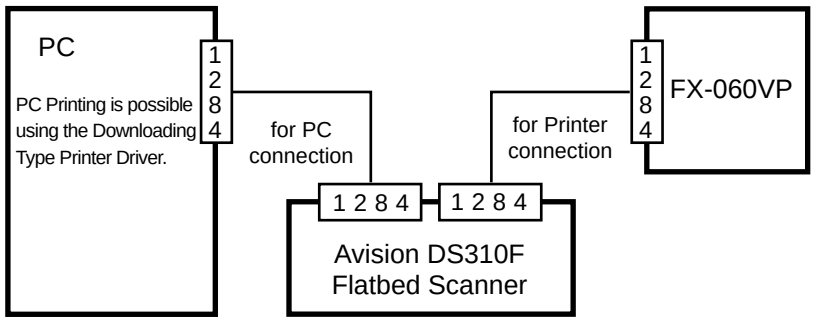
3.9 The “Stop” key on FX-060VP was pressed to discontinue the FAX TX operation while reading from DS310F, however, the indication remained at “STOPPED”.

> Refer to the following section.

2.8 The “Stop” key for FX-060VP was pressed to discontinue the copy operation while reading from DS310F, however, the indication remained at “STOPPED”.

4. DOWNLOADING PRINT

This section describes the function for printing from a PC when FX-060VP and the PC are connected via DS310F as shown below.
In reference to a printer driver, the only Downloading Type is operational; a MFPI Driver is not operational.



It is assumed that a Downloading Type Printer Driver is installed normally.

4.1 Printing from the PC is disabled or the print result is not normal.

> Is the original being read by DS310F?

If printing is attempted from the PC when data is being read by DS310F, print data from the PC and reading image data from DS310F will be mixed, therefore, garbled characters will be printed.
Start printing from the PC after data has been read from DS310F and when the copying or “FAX TX” operation is completed.

> Is Status Monitor in a MFPI Driver running?

Status Monitor in a MFPI Driver is not necessary to use a Download Type Printer Driver.
If Status Monitor is running, printing data from the PC may crash.
As a result, the data may not be printed or come out garbled.
For that reason, be sure to terminate Status Monitor.

5. Other items

5.1 Can an optional ADF by set in DS310F?

An ADF set in DS310F cannot be distinguished by FX-060VP. Therefore, an ADF cannot be used when connecting with FX-060VP.
Operations cannot be guaranteed when setting an ADF and using the copy or “FAX TX” function.

5.2 A scanning function from DS310F to a PC

Refer to the DS310F Manual for detailed functions, operational procedures, etc.
Be minded that, as described in Clause 4.1, read data may crash if Status Monitor in a MFPI Driver is running. For that reason, be sure to terminate Status Monitor.